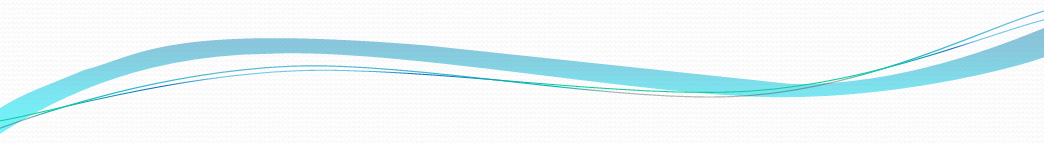
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**Ohio Water/Wastewater Agency Response Network (OH WARN) Operational Plan**

August 2016

Version 1.1

**OH WARN Steering Committee 2016**

**Darryl Key**

*Northeast Ohio Regional Sewer District*

*Ohio WARN, Chair*

**Sara Moore**

*City of Columbus Dept. Public Utilities*

*Ohio WARN, Vice Chair*

**Dana Moore**

*Wadsworth Ohio*

*Ohio WARN, NE District Coordinator*

**Jason Phillips**

*Ottowa*

*Ohio WARN, NW District Coordinator*

**Jim Tindle**

*City of Columbus*

*Ohio WARN, SE District Coordinator*

**Nick Butler**

*Northeast Ohio Regional Sewer District Ohio WARN, Secretary*

**Tim Truman**

*City of Dayton*

*Ohio WARN, SW District Coordinator*

**Dave Riley**

*Ohio Environmental Protection Agency*

*Ohio WARN, Advisor*

**Portia Pulsifer**

*Ohio Emergency Management Agency*

*Ohio WARN, Advisor*

**Tom Fishbaugh**

*Ohio Rural Community Assistance Program*

*Ohio WARN, Advisor*

**Tim Ballard**

*Ohio Rural Water Association*

*Ohio WARN, Advisor*

**Randy Gilbert**

*Greene County Sanitary Engineering*

*Ohio WARN, Past Chair*

August 2016

Table of Contents

[Record of Changes iii](#_Toc459295953)

[List of Tables and Figures iv](#_Toc459295954)

[List of Acronyms v](#_Toc459295955)

[List of Definitions vii](#_Toc459295956)

[Section 1.0 Introduction 1](#_Toc459295957)

[Section 1.1 Purpose of the OH WARN Operational Plan 2](#_Toc459295958)

[Section 1.2 Organization of the OH WARN Operational Plan 2](#_Toc459295959)

[Section 1.3 Assumptions 3](#_Toc459295960)

[Section 2.0 Roles & Responsibilities 5](#_Toc459295961)

[Section 2.1 Utility Members 5](#_Toc459295962)

[**Section 2.1.1** **Pre-emergency Responsibilities** 5](#_Toc459295963)

[**Section 2.1.2** **Emergency Responsibilities** 6](#_Toc459295964)

[Section 2.2 Associate Members 6](#_Toc459295965)

[Section 2.3 Steering Committee 7](#_Toc459295966)

[**Section 2.3.1** **Responsibilities** 7](#_Toc459295967)

[**Section 2.3.2** **Composition** 8](#_Toc459295968)

[**Section 2.3.3** **Appointment & Election** 8](#_Toc459295969)

[**Section 2.3.4** **Committee Positions** 9](#_Toc459295970)

[Section 3.0 Training, Exercises & Updates 13](#_Toc459295971)

[Section 3.1 Training 13](#_Toc459295972)

[Section 3.2 Exercises 14](#_Toc459295973)

[**Section 3.2.1** **Tabletop Exercises** 14](#_Toc459295974)

[**Section 3.2.2** **Functional Exercises** 14](#_Toc459295975)

[**Section 3.2.3** **Full-Scale Exercises** 14](#_Toc459295976)

[Section 3.3 Updating WARN Documents 15](#_Toc459295977)

[**Section 3.3.1** **Using the Record of Changes Form** 15](#_Toc459295978)

[Section 4.0 Concept of Operations 16](#_Toc459295979)

[Section 4.1 OH WARN Relation to Local, State & Federal Response 16](#_Toc459295980)

[Section 4.2 Response Considerations by Role 18](#_Toc459295981)

[**Section 4.2.1** **Field Response** 19](#_Toc459295982)

[**Section 4.2.2** **Area Command** 21](#_Toc459295983)

[**Section 4.2.3** **Local Government** 21](#_Toc459295984)

[**Section 4.2.4** **OH WARN** 22](#_Toc459295985)

[**Section 4.2.5** **State Government** 22](#_Toc459295986)

[**Section 4.2.6** **Federal Government** 22](#_Toc459295987)

[Section 5.0 OH WARN Activation 24](#_Toc459295988)

[Section 5.1 Who Activates OH WARN? 24](#_Toc459295989)

[Section 5.2 What is Activated? 25](#_Toc459295990)

[Section 5.3 Pre-Event Activation 25](#_Toc459295991)

[Section 5.4 Notification 25](#_Toc459295992)

[Section 5.5 Response to a Request for Assistance 26](#_Toc459295993)

[Section 6.0 Response Considerations 27](#_Toc459295994)

[Section 6.1 Requesting Utility 27](#_Toc459295995)

[Section 6.2 Responding Utility 27](#_Toc459295996)

[Section 6.3 Requesting Utility Demobilization 28](#_Toc459295997)

[Section 6.4 Responding Utility Demobilization 29](#_Toc459295998)

[Section 7.0 OH WARN Response Team Coordination 30](#_Toc459295999)

[Section 7.1 Response Team Member Roles and Responsibilities 30](#_Toc459296000)

[Section 7.2 Response Team Member Compensation 31](#_Toc459296001)

[The Response Team, depending on size of the emergency, may have a significant role to play coordinating the OH WARN response. The Requesting Utility shall jointly with the Response Team members determine if, when, and how labor, food, lodging, and other supplies expended by volunteer Response Team members will be reimbursed. 31](#_Toc459296002)

[Section 8.0 OH WARN Communication Tools 32](#_Toc459296003)

[Section 8.1 Primary Communication Tools 32](#_Toc459296004)

[**Section 8.1.1** **OH WARN Website** 32](#_Toc459296005)

[Section 8.2 Secondary Communication Tools 33](#_Toc459296006)

[Section 9.0 After Action Report and Improvement Plan 34](#_Toc459296007)

[Section 9.1 After Action Report 34](#_Toc459296008)

[Section 9.2 Improvement Plan 36](#_Toc459296009)

[Section 10.0 Attachments 37](#_Toc459296010)

[Attachment A: OH WARN Requesting Utility Checklist 38](#_Toc459296011)

[Attachment B: OH WARN Emergency Notification Form 40](#_Toc459296012)

[Attachment C: OH WARN Request and Authorization Form 42](#_Toc459296013)

[Attachment D: OH WARN Cost Estimator Worksheet 44](#_Toc459296014)

[Attachment E: OH WARN Mutual Aid/Assistance Coordinator Checklist 46](#_Toc459296015)

[Attachment F: OH WARN Staging Area Manager Checklist 52](#_Toc459296016)

[Attachment G: OH WARN Daily Briefing Considerations 55](#_Toc459296017)

[Attachment H: OH WARN Responding Utility Checklist 56](#_Toc459296018)

[Attachment I: OH WARN Response Team Member Checklist 60](#_Toc459296019)

[Attachment J: OH WARN Request Summary Sheet 64](#_Toc459296020)

[Attachment K: OH WARN Activity Log 65](#_Toc459296021)

[Attachment L: OH WARN State Emergency Operations Center/ WARN Response Coordination 66](#_Toc459296022)

[Attachment M: General OHWARN Process Flow Diagram 67](#_Toc459296023)

[Attachment N: OH WARN Operational Plan Project Team 2010 68](#_Toc459296024)

[Attachment O: AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual 69](#_Toc459296025)

# Record of Changes

Changes to this document are expected due to lessons learned, updates to protocols, and/or modification to the OH WARN Agreement. OH WARN will document all changes to the Plan according to the following procedure:

1. Record updates/changes on the log below. (Add new pages as needed.)
2. The OH WARN Steering Committee approves updates to this OH WARN Operational Plan and electronically advises all Utility Members and Associate Members when approved updates have been made and are available on the OH WARN Website.
3. Members shall replace old pages with current pages and destroy outdated material.

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| --- | --- | --- | --- | --- |
| **Version Number** | **Date of Approval** | **Section #, Header, and Page #** | **Brief Description of Change** | **Approved by** |
| 1.0 | 02/05/10 |  | Initial document | R. Halperin |
| 1.1 | Pending |  | Update |  |
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|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# List of Tables and Figures

Figure 1 Utility Members Follow the Operational Plan to Activate the Agreement 1

Table 1 OH WARN Operational Plan: Content and Purpose by Section 3

Figure 2 Elements of the OH WARN Organizational Structure 5

Figure 3 Elements of the OH WARN Steering Committee Structure 7

Table 2 OH WARN Steering Committee Members 12

Figure 4 Utility Field Response 19

Figure 5 Utility IC Reporting to Utility Management 20

Figure 6 Utility Agency Representative Reporting to IC and Independent Utility Management 20

Figure 7 Utility Agency Representative Reporting as Part of City/County Government 21

Figure 8 Utility Activation of OH WARN: Mutual Aid/Assistance Process Flow Diagram 24

# List of Acronyms

**AWWA**

American Water Works Association

**DERR**

Division of Emergency and Remedial Response

**DOC**

Department Operations Center

**EMA**

Emergency Management Agency

**EMAC**

Emergency Management Assistance Compact

**EOC**

Emergency Operations Center

**EOP**

Emergency Operations Plan

**ERP**

Emergency Response Plan

**ESF**

Emergency Support Function

**FEMA**

Federal Emergency Management Agency

**HSEEP**

Homeland Security Exercise and Evaluation Program

**HSPPD8**

Homeland Security Presidential Policy Directive 8

**IAP**

Incident Action Plan

**IC**

Incident Commander

**ICS**

Incident Command System

**MAAOP**

Mutual Aid Assistance Operations Plan

**MACS**

Multi-Agency Coordination System

**NIMS**

National Incident Management System

**NRF**

National Response Framework

**OAWWA**

Ohio American Water Works Association

**Ohio EMA**

Ohio Emergency Management Agency

**Ohio EPA**

Ohio Environmental Protection Agency

**OH WARN**

Ohio Water/Wastewater Agency Response Network

**ORWA**

Ohio Rural Water Association

**OWEA**

Ohio Water Environmental Association

**PA Program**

FEMA Public Assistance Program

**Ohio RCAP**

Ohio Rural Community Assistance Program

**U.S. DHS**

U.S. Department of Homeland Security

**U.S. EPA**

U.S. Environmental Protection Agency

**USACE**

U.S. Army Corps of Engineers

**WARN**

Water/Wastewater Agency Response Network

# List of Definitions

**Activation**

Occurs when one Member utility calls another Member utility to discuss the exchange of resources.

**Agreement**

The Ohio Water/Wastewater Agency Response Network Mutual Aid Agreement.

**Associate Member**

Any non-utility, non-voting member of OH WARN that provides a support role to the OH WARN program, but does not sign the Agreement. Also know as an Advisor.

**Authorized Official**

An employee of a Member who is authorized by the Member’s governing board or management to request assistance or offer assistance under the OH WARN Agreement.

**Confidential Information**

Any document shared with any signatory to the OH WARN Agreement that is marked confidential, including but not limited to any map, report, notes, papers, opinion, or e-mail which relates to the system vulnerabilities of a Member or Associate Member.

**Emergency**

A natural or manmade event that is, or is likely to be, beyond the control of the available services, personnel, equipment, and facilities of an OH WARN Member.

**Incident**

In this document, the term incident is used as a generic description for a planned event, a small incident, or major disaster.

**Member**

Any public or private water or wastewater utility that manifests intent to participate in OH WARN by executing the OH WARN Agreement.

**Mutual Aid**

Mutual aid is the sending and receiving of personnel, equipment, and resources without the expectation of reimbursement. The OH WARN Agreement may be executed under the same understanding if so agreed between both parties in writing prior to sending aid.

**Mutual Assistance**

While operationally consistent with mutual aid, mutual assistance is the provision of personnel, equipment and resources with the understanding that reimbursement is expected as described in the OH WARN Agreement.

**National Incident Management System (NIMS)**

A national, standardized approach to incident management and response that sets uniform processes and procedures for emergency response operations.

**Non-Responding Member**

A Member that does not provide assistance during a period of assistance under OH WARN.

**Period of Assistance**

A specified period of time during which a Responding Member assists a Requesting Member. The period begins when personnel, equipment, or supplies depart from a Responding Member’s facility and ends when the resources return to their facility (portal to portal). All protections identified in the Agreement apply during this period. The specified period of assistance may occur during response to or recovery from an emergency, as previously defined.

**Requesting Member**

A Member who requests assistance under OH WARN.

**Responding Member**

A Member that responds to a request for assistance under WARN.

**Work or Work-Related Period**

Any period of time in which either the personnel or equipment of the Responding Member are being used by the Requesting Member to provide assistance. Specifically included within such period of time are rest breaks when the personnel of the Responding Member will return to active work within a reasonable time. Also, included is mutually- agreed-upon rotation of personnel and equipment.

# Section 1.0 Introduction

Mutual aid and assistance agreements such as Water/Wastewater Agency Response Networks (WARNs) help local jurisdictions respond to incidents that call for resources beyond the capability of a local utility. The OH WARN Mutual Aid Agreement identifies the administration of the program, describes how to access mutual aid/assistance, specifies reimbursement procedures for the use of resources, and authorizes the creation of a OH WARN Operational Plan.

While the OH WARN Agreement is the legal instrument authorizing the exchange of resources, the OH WARN Operational Plan is the operational extension of the OH WARN Agreement and outlines the procedures that need to be in place to make the Agreement work. The OH WARN Operational Plan describes how to implement the Agreement. Other documents, such as the American Water Works Association’s (AWWA) *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual,* identify the type of teams and associated equipment that utilities may request[[1]](#footnote-1). All three of these documents (the OH WARN Agreement, OH WARN Operational Plan, and *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*) are interrelated and support the mission of OH WARN. Other job aids are included in Section 10 and more may be developed in the future to help facilitate the implementation of the OH WARN Operational Plan.

Figure 1 shows how Utility Members activate the OH WARN Agreement by following the OH WARN Operational Plan and illustrates how Resource Typing is integral to requesting mutual aid/assistance. Exercising the OH WARN Operational Plan, and using Resource Typing and other tools or job aids, ensures proper functionality of OH WARN.

**Figure 1: Utility Members Follow the OH WARN Operational Plan to Activate the Agreement**

## Section 1.1 Purpose of the OH WARN Operational Plan

The OH WARN Operational Plan is an instructional guide for OH WARN Utility Member and Associate Members describing the use of the OH WARN Agreement and the coordination of resource flow. It is not designed to be a command and control element outside of the emergency management system. Rather, it is a coordination tool within the emergency management system. The OH WARN Operational Plan facilitates integration of Utility Member’s actions before, during, and after an incident, including those actions that occur prior to a formal emergency declaration. The OH WARN Operational Plan also describes how to sustain operations throughout the emergency and into recovery. Specifically, the OH WARN Operational Plan achieves the following goals:

* Describes the pre-emergency governance structure of the OH WARN program
* Describes training, exercises, and procedures to update the OH WARN Operational Plan
* Provides a general set of procedures for coordinating with Associate Members and other response partners
* Provides a general set of procedures for activating the OH WARN Agreement
* Provides a general set of procedures for mobilization of OH WARN Utility Member resources
* Provides a general set of procedures for internal OH WARN response coordination
* Describes documentation and forms for OH WARN standard reporting formats
* Describes communications tools for OH WARN Utility Members
* Describes a general set of procedures for writing an After Action Report and Improvement Plan

The OH WARN Operational Plan also addresses how OH WARN will utilize other available tools, such as the AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*.

## Section 1.2 Organization of the OH WARN Operational Plan

Table 1 shows how the OH WARN Operational Plan is organized. Notably, Sections 5.0, 6.0, 7.0, 8.0 and 10.0 (the bold sections in the table) address actions that will be taken by OH WARN Utility Members during an emergency.

**Table 1 OH WARN Operational Plan: Content & Purpose by Section**

| **Section** | **Content** | **For use by:** | **When it is used:** |
| --- | --- | --- | --- |
| 1.0 | Introduction | Utility Members and Associate Members | Pre-Emergency |
| 2.0 | Roles and Responsibilities | Staff responsible for administrative and preparedness activities | Pre-emergency |
| 3.0 | Training, Exercises, and Updates | Staff responsible for preparedness activities | Pre-emergency |
| 4.0 | Concept of Operations | Staff planning and establishing WARN operations prior to an emergency | Pre-emergency |
| **5.0** | **WARN Activation** | **Utility Members requesting assistance and Utility Members responding to requests** | **During WARN activation** |
| **6.0** | **Response Considerations** | **Utility Members responding to requests** | **During WARN activation** |
| **7.0** | **WARN Response Coordination** | **WARN Response Team Members helping to coordinate the WARN Member’s response during an emergency** | **During WARN activation** |
| **8.0** | **WARN Communication Tools** | **Utility Members requesting assistance and Utility Members responding to requests** | **During WARN activation** |
| 9.0 | After Action Report and Improvement Plan | Staff responsible for post-incident activities | Post-emergency |
| **10.0** | **Attachments** | **Utility Members requesting assistance and Utility Members responding to requests** | **During WARN activation** |

# 

## Section 1.3 Assumptions

Several key assumptions form the basis of this document and implementation procedures for the OH WARN:

* **Emergency Response Plans are in place.** While utility-specific Emergency Response Plans (ERPs) are not within the scope of this document, OH WARN encourages all utilities to develop or update an ERP. With the establishment of the National Incident Management System (NIMS), ERP updates include how a utility uses the Incident Command System (ICS), how a utility integrates with its local emergency management and response agencies, and how the ERP addresses vulnerability assessments, if they are also completed. Additionally, Utility Member’s ERPs can integrate expected WARN activities.**Designated personnel are trained according to their ERP, ICS, NIMS, and Resource Typing.** In order to respond to all emergencies, Utility Members can provide practical employee training regarding the utility ERP, ICS, and NIMS. Additional training on how to use mutual aid/assistance resources ensures the ability to coordinate response with outside agencies. ***Section 3.0*** of this document includes a list of recommended NIMS and ICS trainings. Additionally, employees can be familiar with resource typing efforts such as that described in the *AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*.
* **Utilities have signed a single, statewide omnibus WARN Agreement.** The OH WARN Agreement establishes the foundation of OH WARN and serves as the legal instrument authorizing the request for mutual aid/assistance, provides a mechanism for reimbursement, identifies the legal protection and immunities for employees and for use of resources, and establishes eligibility for possible federal reimbursement of expenditures associated with mutual aid/assistance.
* **Utilities have responsibility for integration of the OH WARN Operational Plan.** The OH WARN Steering Committee approved the OH WARN Operational Plan with feedback from a review team and distributed the plan to educate Utility Members and Associate Members. It is the Utility Members’ and Associate Members’ responsibility to integrate the OH WARN Operational Plan into their respective emergency response or emergency operations plans. Descriptions of the OH WARN Operational Plan and suggested training do not replace other regulated trainings, such as those required for hazardous materials response.
* **The OH WARN Operational Plan is coordinated with local and state authorities.** Coordinated response and access to restricted areas relies on communication between OH WARN and the following groups or organizations:
  + Utilities
  + Local emergency management agencies
  + State emergency management agency
  + State drinking water primacy agency
  + State wastewater permitting authority
  + Local and State law enforcement authorities

The relationship between OH WARN, state and local agencies, and utilities, is defined by the OH WARN Agreement and documented in this OH WARN Operational Plan. Exercising with Utility Members, Associate Members, and other response agencies facilitates an increased level of preparedness to respond to an actual emergency.

**Section 2.0 Roles & Responsibilities**

OH WARN Members plan and prepare for a real incident prior to responding. Likewise, the OH WARN Steering Committee relies on membership involvement to help organize the activities, plans, and resources to ensure continued operability of OH WARN. The following diagram identifies the relationship of the Steering Committee, Utility Members, and Associate Members.

**Figure 2: Elements of the OH WARN Organizational Structure**

**Section 2.1 Utility Members**

A Utility Member is any public or private water or wastewater utility that signs the OH WARN Agreement. OH WARN encourages Utility Members to participate in the annual meeting, trainings, and other activities. Utility Members are eligible and encouraged to participate in committee activities to support OH WARN. Utility Members can participate in more than one committee activity. Utility Members are required to identify an Authorized Representative and alternates to manage its participation in OH WARN.

Utility Members vote to elect Steering Committee members. Utility Members also vote on updates to the Agreement and other topics related to the operations of the Agreement. Each Utility Member has one vote regardless of size. A utility that operates both water and wastewater services has one vote. A private utility with multiple service locations also has just one vote (in relation to one decision-making board).

* + 1. ***Pre-emergency Responsibilities***

Utility Members are responsible for pre-emergency activities including:

* Identifying an Authorized Representative and alternates who are responsible for:
  + Activating the WARN system,
  + Authorizing the deployment of resources, and
  + Acting as the lead representative for communications and functions for their utility.
* Providing OH WARN with contact information for their Authorized Representative and alternates, and complete the utility description database with information for their utility in accordance with their policy and following the AWWA Resource Typing Manual.
* Print a hard copy of the OH WARN database on a periodic basis (i.e., every six (6) months) to ensure the information is available when a power loss disrupts computer access.
* Updating contact and database information every six (6) months or more frequently as changes occur.
* Ensuring utility employees are trained according to the current NIMS guidance and complete relevant training requirements as appropriate.
* Identifying internal procedures for how or when the Authorized Representative may request or send mutual aid/assistance.
* Clarifying reporting and coordination procedures with the local emergency management officials.
* Volunteering to support the pre-emergency organization of the WARN system, as available.
* Attending OH WARN trainings, exercises and general meetings.
  + 1. ***Emergency Responsibilities***

Utility Members are responsible for emergency activities including:

* Making requests for assistance, as needed during emergency situations.
* Coordinating with local emergency management officials.
* Sending resources, if available, to Utility Members in need.
* Documenting and tracking resources and costs of dispatched or requested resources.
  1. **Associate Members**

An Associate Memberis any non-utility, non-voting member of OH WARN that provides a support role to the OH WARN program, but does not sign the Agreement.

**2.2.1 Advisors**

Associate Members include advisors/representatives from the following organizations and agencies:

* Ohio Environmental Protection Agency
* Ohio Emergency Management Agency
* Ohio Department of Homeland Security
* Ohio Department of Health
* U.S. Environmental Protection Agency Region V
* Professional water/wastewater sector association representative(s) (AWWA, ORWA, OWEA, etc.).

Advisors are responsible for actively participating in the OH WARN program which includes attending meetings, assisting with planning efforts and participating in other OH WARN activities. During an emergency, Advisors will help coordinate the sharing of resources between utilities.

**2.2.2 Subject Matter Experts and Vendors**

Subject Matter Experts and Vendors are also Associate Members that are non-utility, non-voting members of OH WARN that provide valuable information and support to the OH WARN program.Examples of SMEs and Vendors include:

* Equipment manufacturers or representatives
* Consultants
* Hydrogeologists
* Engineers
  1. **Steering Committee**

The following organizational chart identifies the relationship of the Steering Committee members.

**Figure 3: Elements of the OH WARN Steering Committee Structure**

* + 1. ***Responsibilities***

Under the leadership of the Steering Committee Chair (also referred to as the OH WARN Chair), the Steering Committee is responsible for the following actions:

* Organize and coordinate emergency planning and response activities for OH WARN.
* Encourage the active participation of Utility Members.
* Establish regular meeting schedules to maintain continuity. Meetings shall occur at least once per quarter.
* Review, update and approve revisions to the OH WARN MAAOP and Agreement, as needed.
* Maintain communication with Utility Members regarding updates, changes, or modifications to the OH WARN system.
* Maintain the operational capability of the OH WARN Agreement.
* Represent the membership when engaged in meetings, discussions, and consultations with other associations, states, and local agencies.
  + 1. ***Composition***

The OH WARN Steering Committee shall consist of at least ten (10) members including seven (7) voting Utility Members and at least three (3) non-voting Advisors. Three (3) At-Large representatives from Utility Members shall serve as Chair, Vice Chair and Secretary. Regional Coordinators shall also be Utility Members with one from each of the four (4) Ohio AWWA districts (i.e., Northeast, Northwest, Southeast, Southwest) in the state. A concerted effort shall be made to include a mix of large, medium and small both private and public water and wastewater utilities for the voting Members. Associate Members (e.g., Ohio EPA, Ohio EMA, Ohio DHS, Ohio AWWA, OWEA, ORWA, Ohio Municipal League, RCAP, etc.) shall serve as Advisors on the Steering Committee. Up to five (5) Advisors may be appointed to the Steering Committee, but there must always be a minimum of three (3). Voting Steering Committee members are expected to be a member of one of the professional water or wastewater organizations (e.g., Ohio AWWA, OWEA, ORWA, etc.). The OH WARN Steering Committee shall have the following positions:

* Chair (1) – At-large
* Vice Chair (1) – At-large
* Secretary (1) – At-large
* Regional Coordinators (4)
* Advisors (minimum of 3, maximum of 5)

***Section 2.3.3 Appointment & Election***

Steering Committee Utility Members are nominated by OH WARN Members. The ballot will be determined by nominations received. OH WARN Utility Members shall vote to elect Steering Committee members and the Steering Committee shall ratify. Regional Coordinators shall be nominated and elected by Utility Members in their District (i.e., Northeast, Northwest, Southeast, Southwest) and ratified by the Steering Committee.

Advisors shall be recommended by any Associate Member and approved and appointed by the Steering Committee.

Members of the Steering Committee shall serve **a minimum of a two (2)-year term**. Voting and appointment shall occur at least three (3) months prior to start of the calendar year the term begins. New members must be identified by December 1st before the term begins. **Official term begins on January 1st of each calendar year and expires December 31st of the year of term expiration.** All Steering Committee members shall be eligible for a second two-year term. A Steering Committee member shall not serve for more than two (2) consecutive terms. An exception to the two consecutive term rule can be made in event that no nominations are received for a replacement. Terms shall be staggered in order to maintain continuity of purpose and progress of the Steering Committee. An exception to the two consecutive term rule shall be permitted in the case when the Vice Chair succeeds the Steering Committee Chair.

Should a vacancy (or pending vacancy) of a Utility Member held position need to be filled, nominations will be accepted and reviewed and a vote will be held with OH WARN Members to elect the replacement. Nominations may be received at any time.

Should a vacancy (or pending vacancy) of an advisor position need to be filled, the Steering Committee will notify the affected association or agency as soon as possible. Included with the notice will be a description of OH WARN, the qualifications of the advisor, the time commitment required for appointment, and timeline and format of the expected response. The goal is to appoint someone who will actively serve and be dedicated to the continuation and improvement of OH WARN.

***Section 2.3.4 Committee Positions***

**Chair**

The Steering Committee Chair is an At-Large Utility Member for which nominations were received and the individual was elected through a voting process by all OH WARN voting Members. A concerted effort will be made to ensure that the position of Chair is rotated between water and wastewater as well as small, medium and large systems. In order to be eligible to serve as Chair, the individual must have served a minimum of two (2) years on the OH WARN Steering Committee. The Chair is responsible for:

* Representing OH WARN Utility Members to Ohio EPA and Ohio EMA in emergency planning matters;
* Presiding at all duly constituted meetings of the membership;
* Acting as the Executive of the Steering Committee and an ex officio member of all standing committees; and
* Representing OH WARN to US EPA and national organizations.

**Vice Chair**

The Vice Chair is an At-Large Utility Member for which nominations were received and the individual was elected by all voting Members of OH WARN. The Vice Chair performs duties as assigned by the Chair. During a temporary absence of the Steering Committee Chair, the Vice Chair provides direction to the OH WARN Steering Committee. In case the OH WARN Steering Committee Chair retires, resigns, or experiences a long-term absence, the Vice Chair acts in place of the Chair until OH WARN Members elect a new Chair. A concerted effort will be made to ensure the Vice Chair’s area of expertise compliments that of the Chair.

**Secretary**

The position of Secretary shall be filled by accepting nominations and conducting a voting process by all OH WARN voting members. The Secretary is responsible for recording proceedings at all meetings of the Steering Committee, and:

* Editing and publishing any official administrative publications for the Steering Committee,
* Receiving and maintaining a file of notes and records for the Steering Committee and subcommittees,
* Sending official messages approved by the Chair to Members – either directly or through the Regional Coordinators, and
* Performing other administrative duties as assigned.

**Regional Coordinators**

OH WARN shall utilize existing Ohio AWWA Districts for the purpose of breaking down the State into regions for the purpose of selecting Regional Coordinators. Local Utility Members shall nominate and elect Regional Coordinators from the same region. Regional Coordinators are responsible for:

* Representing Utility Members of their region on the Steering Committee,
* Attending OH WARN Steering Committee meetings,
* Voting on matters pertaining to the operation and management of OH WARN,
* Coordinating regional activity with the local and/or regional emergency management agencies and other appropriate organizations and agencies, and
* Assisting with the preparation of the meetings, exercises and trainings.

Regional Coordinators may also serve as the Chair of an OH WARN Subcommittee.

**Advisors**

Associate Members participate on the OH WARN Steering Committee as Advisors. The Steering Committee shall have a minimum of three (3) Advisors at all times and as many as five (5) Advisors. It is preferred that the Steering Committee always have Advisors from Ohio EPA and Ohio EMA. Advisors are required to attend OH WARN Steering Committee meetings and participate in other OH WARN activities. As Advisors, these members do not vote on OH WARN actions, but do provide valuable input. Advisors or subject matter experts are nominated by their organization and approved by the Steering Committee.

**Table 2 OH WARN Steering Committee Members**

|  |  |
| --- | --- |
| **Committee Position** | **Term Expiration Date** |
| Chair | 12-31-Even Year |
| Vice Chair | 12-31-Odd Year |
| Secretary | 12-31-Odd Year |
| NE District Coordinator | 12-31-Odd Year |
| NW District Coordinator | 12-31-Even Year |
| SE District Coordinator | 12-31-Even Year |
| SW District Coordinator | 12-31-Odd Year |
| Advisor 1 RCAP | 12-31-Odd Year |
| Advisor 2 Ohio RWA | 12-31-Even Year |
| Advisor 3 Ohio EPA | 12-31-Even Year |
| Advisor 4 Ohio EMA | 12-31-Odd Year |
| Advisor 5 | vacant |

**Subcommittees**

Subcommittees may include:

1. Operations (standing)
2. Response (standing)
3. Membership (ad-hoc, as needed)
4. Ballot (ad-hoc, as needed)

Additional subcommittees may be appointed to address such issues as Web content or training and exercises. OH WARN Utility Members and Associate Members may participate in one or more subcommittees. The Steering Committee approves the creation of and membership in the subcommittees.

**1. Operations Subcommittee**

To comply with the requirements of the OH WARN Agreement to create a Mutual Aid/Assistance Operational Plan (MAAOP), the OH WARN Steering Committee shall identify a group of Utility Members and Associate Members to perform as the Operations Subcommittee and create, maintain and update an Operational Plan to ensure OH WARN is ready to respond. The Subcommittee will be chaired by a member of the Steering Committee. This “standing subcommittee” focuses on procedures and materials designed to manage and improve the operations of OH WARN. The committee is responsible for:

* Developing, maintaining and updating the OH WARN MAAOP,
* Identifying a process for how the Steering Committee will approve and authorize the publication of the Operational Plan as well as its distribution,
* Maintaining contact with local, regional, and state emergency management agencies and Ohio EPA,
* Providing recommendations on how to manage Utility Member contact data and resource lists,
* Leading regular Utility Member training sessions to maintain familiarity with the requirements of the Agreement and the MAAOP, and
* Conducting an “after action review” of OH WARN system operations following each emergency and make recommendations for improvement.

**2. Response Subcommittee**

The Subcommittee is comprised of Utility Members and Associate Members that are not affected by the emergency who allow trained staff to leave their unaffected home utility to staff a central coordination center to help manage the OH WARN response. Based on the circumstances of the emergency, this “WARN Response Team” may be located at the State or a County Emergency Operations Center, an OH WARN Utility Member facility, an independent operations center, or virtually as a decentralized operations center. In general, this subcommittee will take what the Operations Subcommittee has prepared and ensure volunteers are ready to respond in the event of an OH WARN activation. The NIMS concept of mutual aid/assistance discourages “self-dispatching” of resources to an emergency. In order to ensure coordinated response among the OH WARN Utility Members and avoid “self-dispatch,” OH WARN may consider training Response Team Members who would be willing to help coordinate the OH WARN system response during an emergency. The subcommittee will be led by a Chair, who is a member of the OH WARN Steering Committee.

Because of the responsibilities of this group, the WARN may consider this to be a regular standing subcommittee.

**3. Membership Subcommittee**

When OH WARN is seeking to increase its membership, the Steering Committee may decide to create a Membership Subcommittee that will be chaired by a member of the Steering Committee. The Subcommittee is responsible for:

* Developing and/or maintaining marketing or informational materials for outreach purposes,
* Conducting informational outreach at professional association conferences and workshops to ensure presentation of the WARN concept,
* Recruiting new Utility Members, and
* Maintaining contact with Utility Members to ensure utility information is regularly updated.

**4. Agreement/Elections/Balloting Subcommittee**

There are generally two reasons for an election or a vote: first, when Regional Coordinators or other Steering Committee members are elected to their positions; and second, when updates to the OH WARN Agreement require a vote. The Steering Committee identifies when elections or ballots are required. This optional subcommittee may be called upon to distribute and collect ballots in order to:

* Vote on election of Regional Coordinators and Steering Committee members.
* Vote on updates to the OH WARN Agreement.

Each Utility Member regardless of size has one vote. Associate Members do not vote. Notice of a ballot and rules of the ballot process will be sent to the Authorized Representatives of Utility Members a month in advance of the voting deadline. Ballots may be in electronic or written form, and collected at either an identified meeting or by fax or e-mail, as determined by the Steering Committee. In the absence of an ad-hoc Elections/Ballot Subcommittee, the Steering Committee Chair may designate a Utility Member to manage the election/ballot process.

Following an event, or every five years, (whichever is sooner) the subcommittee may accept comments and recommended changes to the agreement from Utility Members. Two appointed legal representatives from Utility Members will review the suggestions to determine the impact on the agreement. Based on review of the impacts, the Steering Committee will determine whether to submit the changes for a vote to the Members. An announcement of the proposed changes will be made to the Utility Members and will be submitted along with a ballot and deadline for a vote. Results of the vote will be shared with the Utility Members. Utility Members not in agreement with the changes may determine whether to continue with the OH WARN program or withdraw.

**Section 3.0 Training, Exercises & Updates**

The OH WARN program may provide some trainings or participate in the trainings and exercises at the request of an individual Utility Member or at the request of a local, county, or state government exercise. Authorized Representatives, Response Team members, and other relevant stakeholders may participate. The OH WARN Steering Committee encourages Utility Members to develop multi-year Training and Exercise Plans that include the following components.

## Section 3.1 Training

The OH WARN Steering Committee may provide the following training to enhance response with mutual aid/assistance resources and ensure the ability to coordinate response with outside agencies:

* Understand the OH WARN Agreement
* Reviewing the OH WARN Operational Plan and how to fill out the appropriate forms
* Understand the OH WARN Web site, database, and other communication protocols
* Understand the AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*

Steering Committee members are expected to complete the following courses:

* IS-100 Introduction to the Incident Command System for Water Sector Personnel
* IS-200 ICS for Single Resources and Initial Action Incidents
* IS-300 Intermediate ICS, Expanding Incidents (Classroom Instruction Only)
* IS-400 Advanced ICS, Command and General Staff – Complex Incidents (Classroom Instruction Only)
* IS-700 National Incident Management System, An Introduction
* IS-800.B National Response Framework (NRF), An Introduction

Utility Members need to ensure all employees are trained on the utility’s specific safety procedures and emergency response plan. Additionally each utility implements the NIMS training requirements according to its internal policy. Depending on the person’s role in the incident, some of the training courses may include:

* IS-100PW Introduction to the Incident Command System for Water Sector Personnel
* IS-200 ICS for Single Resources and Initial Action Incidents
* IS-300 Intermediate ICS, Expanding Incidents (Classroom Instruction Only)
* IS-400 Advanced ICS, Command and General Staff – Complex Incidents (Classroom Instruction Only)
* IS-700 National Incident Management System, An Introduction
* IS-800 National Response Framework (NRF), An Introduction

Utility Member representatives who serve on the Response Subcommittee/Team may also need to complete:

* [IS-634 Introduction to the Public Assistance Program](http://training.fema.gov/EMIWeb/IS/is630.asp" \o "http://training.fema.gov/EMIWeb/IS/is630.asp)
* IS-701 Multi-agency Coordination Systems
* IS-703 [NIMS Resource Management](http://training.fema.gov/EMIWeb/IS/is703.asp)
* IS-706 [NIMS Intrastate Mutual Aid - An Introduction](http://training.fema.gov/EMIWeb/IS/IS706.asp)
* Training on Exercise Design, The following are examples of online “Training on Exercise Design”
  1. EPA’s “How to Develop a Multi-Year Training & Exercise (T&E) Program: A Tool for the Water Sector,” which can be downloaded at https://www.epa.gov/sites/production/files/2015-05/documents/how\_to\_develop\_a\_multi-year\_training\_and\_exercise\_plan\_a\_tool\_for\_the\_water\_sector.pdf
  2. EPA’s “Tabletop Exercise Tool for Water Systems,” and the contents of the CD can be downloaded at <http://water.epa.gov/infrastructure/watersecurity/techtools/ttx.cfm>
* Training on State operational activities
  1. Training on the Emergency Management Assistance Compact (EMAC) such as “Training on the Emergency Management Assistance Compact” available at <http://www.emacweb.org/index.php/trainingeducation/emac-training-opportunities>
* Suggested NIMS IS courses for training exercises are:
  + IS-120.A: An Introduction to Exercises
  + IS-130: Exercise Evaluation and Improvement Planning

## Section 3.2 Exercises

OH WARN may participate in a Utility Member’s and/or local, county, and state exercise plans. The plan could include a building-block approach in which exercise activities focus on specific capabilities in a cycle of escalating complexity. Of the seven types of exercises described by U.S. Department of Homeland Security’s (DHS) Homeland Security Exercise and Evaluation Program (HSEEP),[[2]](#footnote-2) the Training and Exercise Plan focuses on the following three.

***Section 3.2.1 Tabletop Exercises***

Tabletop exercises, a type of discussion-based exercise, bring together key personnel to discuss hypothetical scenarios in an informal setting. OH WARN may organize one at their annual meeting or participate in at least one Utility Member tabletop exercise annually to assess plans, policies, and procedures, or to evaluate the systems needed to guide the prevention of, response to, and recovery from a defined incident. OH WARN may also participate in exercise programs designed and run by local or state emergency management authorities as opportunities arise.

***Section 3.2.2 Functional Exercises***

A functional exercise simulates everyday operations in a functional area by presenting complex and realistic problems that warrant rapid and effective responses by trained personnel operating in a highly stressful, time-constrained environment. OH WARN may participate in a Utility Member’s, local government’s, or state’s functional exercises as opportunities arise.

***Section 3.2.3 Full-Scale Exercises***

Full-scale exercises focus on implementing and analyzing the plans, policies, procedures, and cooperative agreements developed in discussion-based exercises and honed in previous, smaller, operations-based exercises. OH WARN may participate in a Utility Member’s, local government’s, or state’s full-scale exercises as opportunities arise.

## Section 3.3 Updating WARN Documents

Following an incident, exercise, or every five years, (whichever is soonest), the OH WARN Operational Plan Subcommittee will notify OH WARN Utility Members that comments are being accepted, collect the comments, and will revise the OH WARN Operational Plan as appropriate. The OH WARN Steering Committee reviews the revised plan and approves any changes. The OH WARN Steering Committee will also communicate OH WARN Operational Plan changes to WARN Members and Associate Members and those persons who are assigned roles within the plan.

Utility Members’ and Associate Members’ are responsible to integrate the updated OH WARN Operational Plan into their respective emergency response or emergency operations plans.

Any suggested changes that impact the OH WARN Agreement are handled separately from the OH WARN Operational Plan updates. Two appointed legal representatives from Utility Members may review the suggestions to determine the impact on the OH WARN Agreement. Based upon the review of the impacts, the OH WARN Steering Committee determines whether to submit the changes for a vote to the Utility Members. An announcement of the proposed changes is made to each Utility Member that includes a ballot and deadline for a vote. Results of the vote will be shared with all Utility Members. Utility Members not in agreement with the changes may determine whether to continue participating in OH WARN.

***Section 3.3.1 Using the Record of Changes Form***

The Operational Plan Subcommittee reviews the OH WARN Operational Plan and submits any revisions to the OH WARN Steering Committee for final approval. The OH WARN Steering Committee determines the process for distributing updates to Members and Associate Members. The OH WARN Steering Committee distributes announcements of updates by using the “Record of Changes” form attached at the beginning of this OH WARN Operational Plan. The OH WARN Steering Committee records any updates or changes to any part of this document.

**Section 4.0 Concept of Operations**

## Section 4.1 OH WARN Relation to Local, State & Federal Response

The relationship between OH WARN and the local and state emergency response system is critical. According to NIMS, local jurisdictions retain command, control, and other authority over response activities for their jurisdictional areas.[[3]](#footnote-3) Incidents typically begin and end locally and are managed on a daily basis at the lowest possible geographical, organizational, and jurisdictional level. Local jurisdictions have flexibility to adjust the scale and scope of their response to the emergency. Should the local and state jurisdictions become overwhelmed during a response; the state may request federal assistance.

The following is a list of the emergency responsibilities and levels of response that may be part of a mobilization of OH WARN. The cumulative activities mirror those described in the NIMS Multi-Agency Coordination System (MACS) Group process (for more information on MACS, see the training courses at <http://training.fema.gov/>). In general, a MACS is a combination of facilities, equipment, personnel, procedures, and communications integrated into a common system with responsibility for coordinating and supporting domestic incident management activities. While direct tactical and operational responsibility for conducting incident management activities rests with the Incident Command, the primary functions of a MACS include the following:

* Support incident management policies and priorities
* Facilitate logistics support and resource tracking
* Inform resource allocation decisions using incident management priorities
* Coordinate incident related information
* Coordinate interagency and intergovernmental issues regarding incident management policies, priorities, and strategies

OH WARN and its various levels of interaction as described below can be considered an element of a MACS providing support to local responders.

Depending on the size of the emergency, all levels of response described below may not be needed every time OH WARN is activated. *As all emergencies are local, if resource needs can be addressed by one utility calling another, that may be all that is needed.* In these situations, the Requesting Utility activates an Emergency Response incident on the website which will inform all members of the activation of OH WARN and the sharing of resources. If access to the OH WARN website is not available, notification can be accomplished via e-mail, phone, radio, fax, or other means available to any member of the OH WARN Steering Committee. For larger incidents, the Requesting Utility shall contact a member of the OH WARN Response Subcommittee. The Response Subcommittee members shall activate OH WARN. In emergencies that affect more than one locality, coordination at the county level may be necessary. In an emergency that affects multiple counties, coordination at the state level may be necessary.

| **Role:** | **Description of Activity:** |
| --- | --- |
| Utility Field Personnel | * These are the utility employees in the field responding to an emergency. * Homeland Security Act of 2002 (P.L.107-296) and Homeland Security Presidential Directive (HSPD) 8 identify local utilities as first responders. * As first responders, utility employees in the field are trained and function within the Incident Command System (ICS). * Field personnel report to their respective employer utility while coordinating response with local emergency response agencies (e.g. law enforcement, fire, rescue, emergency medical, etc.). This is known as unity of command in ICS. |
| Utility  (Private or Public) | * Public utilities can be part of a city or county agency, or an independently governed special district not affiliated with a city or county. Public utilities comply with specific requirements, including the use of NIMS, to be eligible for federal preparedness grants. * Private utilities are generally investor-owned and operated. While not required to comply with NIMS, most private utilities do as a best practice approach. * If the local utility is a city or county department or work unit, the utility may establish a department operations center (DOC) and/or report directly to the appropriate city or county Emergency Operations Center (EOC). * Special districts or independent utilities may activate an agency DOC, and/or depending on the number of cities or counties served, the utility may directly report to or participate with a city, county, or state EOC. |
| Local Government  (Cities) | * Depending on the size and complexity of an emergency, local governments may operate EOCs to coordinate resources and manage operations within the jurisdiction. * Local governments may assist the local utility with the emergency, provided that local resources and supplies are available and that Local Government response resources can be dedicated to this responsibility. * If necessary, the city may request county and state assistance. |
| County Government | * Typically led by county management, a county EOC may be activated to coordinate the emergency response actions of all jurisdictions within the boundary of the county. * Upon request or when response to disruption of local drinking water or wastewater systems becomes a priority for the county, staff may be identified to help coordinate county resources to assist cities, special districts, and local utilities. * If necessary, the county may request state assistance. |
| OH WARN | * Designated OH WARN representatives may sit in the county and/or state EOC to facilitate information flow from damaged utilities, identify utility mutual aid/assistance resources, and coordinate response. * If the OH WARN representatives do not sit in the state EOC, the OH WARN representatives may meet at a designated facility, a Member utility’s DOC, or at the county and/or city EOC to help coordinate OH WARN Utility Member mutual aid/assistance response. * Depending on the organizational plan, when in a city, county, or state EOC, the OH WARN representatives could be seated in the Operations Section, Planning Section, Response Coordination group, or another designated reporting location. |
| State Government | * As needed, the state coordinates state and regional resources to assist the cities and counties. * Typically led by state management, a state EOC may be activated to coordinate the emergency response actions of all jurisdictions within the state. * Upon request or when response to disruption of local water distribution becomes a priority, staff from the state drinking water primacy agency and the state wastewater permitting authority may be identified to help coordinate state resources to assist counties, cities, special districts, and local utilities. * As needed, the state may request assistance from the National Guard, drinking water primacy agency, wastewater permitting authority, other states (through EMAC), or federal government agencies. |
| Federal Government | * As a support agency to Emergency Support Function #3 (ESF #3), Public Works and Engineering, EPA works closely with the U.S. Army Corps of Engineers (USACE) and Federal Emergency Management Agency (FEMA). EPA is also the sector specific agency for the water sector as detailed in HSPD-7. * When local drinking water or wastewater system disruption necessitates federal assistance, FEMA coordinates federal emergency response resources through ESF #3. As an ESF #3 primary agency, USACE is responsible for coordinating supplemental assistance to state and local jurisdictions. * Water infrastructure may also be supported by other ESFs, such as 4, 8, 10, 11, and 14. |

## Section 4.2 Response Considerations by Role

According to NIMS, all emergencies are local and begin with the field[[4]](#footnote-4) response. It is important that OH WARN Utility Members understand how to optimize and work within the Incident Command System (ICS) during a response. As described in ***Section 3.0,*** the appropriate NIMS IS-100 and 200 training courses are available online. The following is a description of how OH WARN might anticipate the use of ICS in connection with OH WARN.

***Section 4.2.1 Field Response***

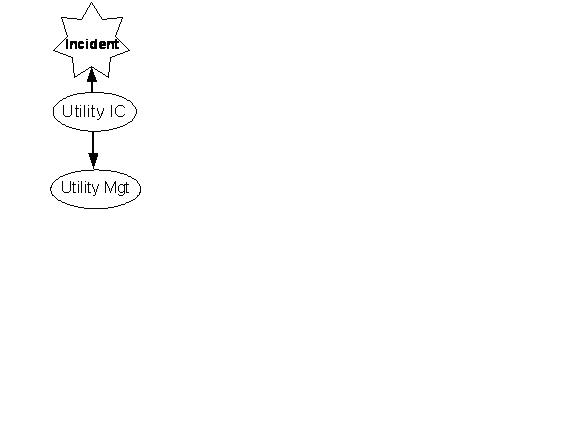
Using ICS, designated utility field personnel manage personnel and resources to carry out tactical decisions and activities in direct response to an incident or threat. ***Figure 4*** demonstrates utility field personnel actions at a remote facility, plant, or main break.

When the incident is a utility-specific event (such as a major water main break, or damage to a treatment plant, water pump, or enclosed clean water reservoir, etc.) the first utility responder to the scene becomes the Incident Commander (IC). The role of command remains at the field scene. The IC characterizes the scene, assesses the impact to the immediate surroundings, manages access to the scene, monitors the conditions, and identifies what resources are needed and where incoming resources report.



**Figure 4: Utility Field Response**

Additionally, the IC communicates with the utility’s management, who directs all available resources of the utility to address the need of the emergency. In this case, the communication from the scene is a direct connection to the utility management. ***Figure 5*** demonstrates this direct communication link to the utility management where the decision to request mutual aid/assistance is made. Command remains in the field with the IC until command is transferred to another person in the field who is more qualified to handle the event, or the designated time for shift change is reached.



**Figure 5: Utility IC Reporting to Utility Management**

In the event the utility is called to respond to an incident where a law enforcement, fire, or public works Incident Commander (IC) is already identified, the utility responder becomes a part of the established response organization. According to ICS, when a person represents an agency (utility in this case) at the Incident Command Post, they are called an “Agency Representative.” The primary responsibility of the utility Agency Representative is to coordinate response of the utility management with the needs of the emergency and provide support to the Incident Commander (IC).

While working with the Incident Commander (IC), the utility Agency Representative establishes contact with utility management to report conditions and progress. ***Figure 6*** demonstrates how a utility Agency Representative from an independent utility reports to a law enforcement, fire, or public works IC while communicating with his or her utility management about the incident and resource needs. Utility management policies and response plans determine the exact reporting relationship and responsibilities. As a result, reporting relationships and responsibilities may vary by utility.



**Figure 6: Utility Agency Representative Reporting to IC and Independent Utility Management**

While command remains in the field with the Incident Commander (IC), for a utility that is part of a city or county government, the utility management may activate a Department Operations Center or Utility Operations Center to rally resources of the department to coordinate its response. The utility department may have to coordinate its response with other portions of the local government. ***See Figure 7.***



**Figure 7: Utility Agency Representative Reporting as Part of City/County Government**

***Section 4.2.2 Area Command***

In complex emergencies that expand beyond one scene, NIMS encourages the use of an Area Command which may operate in an Emergency Operations Center (EOC) or Department/Utility Operations Center. While command remains in the field with the Incident Commander at the scene, the utility establishes an Area Command (utility management in this case) in the EOC to direct resources from unaffected portions of the utility to assist in the response. Once the resources arrive at the scene, they follow the local IC in the field.

As other agencies are requested to respond alongside the utility, coordination between multiple entities may result in the use of the Multi-Agency Coordination System (MACS) concept described in NIMS. Implementing a “MACS group” is simply gathering representatives from all the involved responders together to discuss the situation, identifying responsibilities and ensuring each is helping the other. A MACS group can meet in person, over the phone or other communication service, or a combination of both. The intent is to encourage cross communication with fellow responders at the field level, local EOC level and other levels of response.

***Section 4.2.3 Local Government***

City and county governments respond to an emergency as dictated by their local emergency plans. For a city or county to declare an emergency, the jurisdiction needs to know the extent of damage in the local area (including impact on utilities) and the need for mutual aid/assistance. It would be appropriate for an OH WARN Member utility in need to inform the local emergency management authority of the following information which is captured in the checklists and forms in the attachments to this plan:

* The Utility Member that activated the OH WARN Agreement
* Requested resources
* The Utility Member that is supplying the resources
* When to expect the arrival of resources
* The safe routes for ingress and access to staging locations

The city and/or county may designate specific staff to coordinate information and the needs of utilities within the city or county. The city and/or county employee may need to be educated on what the OH WARN program is and how it can assist the city or county in responding to the needs of the utility community. In this case OH WARN Members are encouraged to communicate with the city or county. This coordination with local government is important, especially if local government establishes access controls limiting people entering a disaster area. As a local government needs assistance, the county may be requesting help and coordinating response with the state government.

***Section 4.2.4 OH WARN***

Once the OH WARN Steering Committee (or Response Subcommittee/Team) member is contacted, OH WARN is activated. Initially, OH WARN may be managed remotely using virtual technology (such as teleconference or e-mail communication tools) to manage the information and response. If the demands of the emergency grow, the OH WARN Steering Committee or Response Subcommittee members may come together to coordinate requests. As the need for coordination increases, trained volunteers from OH WARN Utility Members that are not affected by the emergency may be requested to help with coordination of OH WARN. These volunteers form the OH WARN Response Team (explanation of if or how these volunteers’ resources are reimbursed is described in ***Section 7.2*** of this OH WARN Operational Plan). The key responsibility is to match needs with resources offered by utilities not affected by the emergency. During large events, the OH WARN Response Team Members could be located at the state EOC or an EOC near the incident location. Alternately, the OH WARN Response Team Members could be located at an unaffected utility. In small events, OH WARN Response Team Members could be located at a county or local EOC.

***Section 4.2.5 State Government***

The State of Ohio manages and coordinates state resources in response to the emergency needs of the cities and counties; manages and coordinates statewide mutual aid/assistance; and serves as the coordination and communication link with the federal disaster response system or NIMS. Working with the state drinking water and wastewater agencies or emergency management authority, a representative of the OH WARN program or state employee knowledgeable of OH WARN may serve as a point of contact and maintain communication to work with government agencies to address issues such as access to the disaster area and security of resources. Once the state becomes involved in the response, requests for assistance typically are managed through the Ohio EMA, Ohio EPA, and/or local EOC.

***Section 4.2.6 Federal Government***

According to the National Response Framework (NRF), federal resources are to be “forward leaning” and available for response as needed. Federal agencies with authority and responsibility may respond immediately as required by statute. Federal resources located in or adjacent to the impact area or that are affected by the emergency may respond according to a local agreement. Additional federal resources are dependent on a presidential declaration of a major disaster for deployment. As the federal response is organized, EPA supports many Emergency Support Functions, including Emergency Support Function #3 (led by the U.S. Army Corps of Engineers) which is the primary ESF to support water infrastructure response and recovery. Water infrastructure may also be supported by other ESFs, such as 4, 8, 10, 11, and 14.

**Section 5.0 OH WARN Activation**

Following an incident, each Utility Member initiates a damage assessment and evaluates its resource needs. When a Utility Member determines that mutual aid/assistance is warranted, it has three options for receiving mutual aid and assistance: local mutual aid agreements, OH WARN, or an existing Statewide Master Mutual Aid Agreement.

  
**Figure 8: Utility Activation of OH WARN: Mutual Aid/Assistance Process Flow Diagram**

Utility Members choosing to obtain aid/assistance through OH WARN may do so as described below.

**Section 5.1 Who Activates OH WARN?**

Any Utility Member of OH WARN can determine that it needs the assistance of another Utility Member and therefore decide to activate OH WARN. (See **Attachment A: OH WARN Requesting Utility Checklist**.) OH WARN can be activated by a utility-to-utility request, sending a request for assistance via the OHWARN.org website, contacting a regional coordinator, or during large events through the OH WARN Response Team at the local EOC, or State EOC. Activation occurs when one Utility Member calls another Utility Member to discuss the exchange of resources. A Utility Member activating OH WARN is referred to as the Requesting Utility. When the resources of a Responding Utility fill the need of the Requesting Utility, the Authorized Representatives confer and agree on the terms of deployment.

**Section 5.2 What is Activated?**

The OH WARN Agreement is activated when a request for assistance is made by an OH WARN member. The OH WARN Agreement provides the terms of reimbursement to the Responding Utility and a release of liability for services provided. It does not determine the response times, amenities provided to the Responding Utility, or any other operations-specific needs. In addition, the OH WARN Agreement does not dictate the activation of the EOC of the Responding Utility. These items are determined by dialogue between the Requesting Utility and a Responding Utility at the time of the emergency.

**Section 5.3 Pre-Event Activation**

Some types of emergencies (e.g. severe storms or hurricanes) can be characterized as “warning” or “notice” events due to a build-up of intensity over time and/or scientific methods of predicting an event. This type of event allows Utility Members to anticipate the magnitude of damage and therefore response needs. Activating OH WARN prior to the disaster opens the lines of communication and coordination among Utility Members which helps to ensure a timely and proactive response. The Requesting Utility can initiate the following activities:

* Notify Utility Members of the expected conditions
* Maintain contact with Utility Members about changing conditions and information
* Receive requested resources and identify follow-up actions

Other disasters provide no warning or notice (e.g. earthquakes), or end up impacting a utility in a greater way than anticipated (e.g. flash flooding). Activations during these events do not have the added benefit of pre-event planning.

**Section 5.4 Notification**

Notification occurs when a Requesting Utility notifies a Utility Member or OH WARN Response Team (if activated) that they need resources. Initial communication occurs via a phone call, OH WARN Website Emergency Response request, OH WARN web-based Member forum or other methods. Verbal notifications between Requesting and Responding Utilities will be confirmed via written communication (fax or e-mail) using **Attachment B: OH WARN Emergency Notification Form.** The utility requesting mutual aid/assistance gathers the following information:

* Type of incident
* Impact on utility
* Number of agencies in response
* Known limitations or restrictions
* Available communication tools

In all cases in which the OH WARN Agreement is activated, participating Utility Members shall notify the OH WARN Response Team or Steering Committee that the request has been made and met with resources from another member.

**Section 5.5 Response to a Request for Assistance**

A Utility Member is not obligated to respond to a request. Once a Utility Member receives a request for assistance, the Authorized Representative evaluates whether or not to respond. The Authorized Representative considers these questions:

* Does my utility have the resource requested?
* Do the resources meet the operational requirements that the Requesting Utility identified (refer to the AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*)?
* Did this event impact normal operation?
* If we provide resources, can we maintain our ability to respond to unanticipated needs?

If the Authorized Representative determines that resources are available to respond to the Requesting Utility, thereafter the Utility Member is referred to as a Responding Utility. The Authorized Representative of the Responding Utility communicates, as soon as possible, with the Requesting Utility that it is available to respond and provides the approximate arrival time of such assistance. When possible, the Authorized Representatives of both the Requesting and Responding Utilities will confirm all verbal agreements with written documentation (fax or e-mail).

In addition, the Authorizing Representatives will clarify and agree upon the following items:

* Requesting Utility’s ability to provide care and shelter (food, sleeping arrangements, first aid, etc.) for personnel and resources,
* Reimbursement process to determine whether the Responding Utility follows the reimbursement article of the OH WARN Agreement, and
* What aid the Responding Utility can provide, the cost, and confirmation of the approval from the Authorized Representative and the Utility Member’s management to provide aid.

If agreement is reached on the above items, the Authorized Representatives will complete and transmit the appropriate authorization forms described in ***Section 6.0: Response Considerations***.

**Section 6.0 Response Considerations**

Upon agreement of two or more Utility Members to share their resources, both the Requesting Utility and the Responding Utility are responsible for ensuring the safe and effective use of their resources. This section provides basic considerations for response based on lessons learned from previous disasters. ICS uses a series of standard forms and supporting documents that convey directions for the accomplishment of objectives and distributing information. To be consistent with the ICS feature of standardization, there will be references to ICS forms in this and remaining sections.[[5]](#footnote-5)

**Section 6.1 Requesting Utility**

In general, the Requesting Utility is responsible to complete the following tasks:

* Use the AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual* to determine how to type the resources requested and which Utility Members can potentially meet that need,
* Use **Attachment B: OH WARN Emergency Notification Form** to initiate the mutual aid/assistance process and then transmit the form to potential Responding Utility(ies),
* Discuss resource needs and conditions of use with potential Responding Utility(ies). Complete and forward **Attachment C: OH WARN Request and Authorization Form** to the Responding Utility,
* After the Responding Utility returns **Attachment C: OH WARN Request and Authorization Form** back to the Requesting Utility with available resources and estimated costs, review and determine whether to accept this mutual aid/assistance proposal,
* Assign a Mutual Aid Coordinator to address care, feeding, and other support for incoming mutual aid personnel. See **Attachment E: OH WARN Mutual Aid/Assistance Coordinator Checklist** for a list of what to consider in determining your capability to manage the mutual aid/assistance,
* Notify local emergency management coordinating partners, all law enforcement agencies coordinating check points, and the Operational Area of the incoming mutual aid,
* Identify a Staging Area and assign a Staging Area Manager for incoming mutual aid. See **Attachment F: OH WARN Staging Area Manager Checklist**,
* Identify work assignments for the incoming mutual aid,
* Consider how to integrate incoming mutual aid resources with existing workforce, and
* Develop a demobilization plan that includes protocols on how and when mutual aid resources will be released.

**Section 6.2 Responding Utility**

In general, the Responding Utility is responsible to complete the following tasks (See **Attachment H: OH WARN Responding Utility Checklist** for more detail):

* Contact the OH WARN Response Team (if convened) to notify them of available resources, based on the resources described in the AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*
* If mutual aid/assistance is requested via **Attachment B: OH WARN Emergency Notification Form** or **Attachment C: OH WARN Request and Authorization Form**, review and determine whether it can meet this request
* Estimate the cost of response utilizing **Attachment D: OH WARN Cost Estimator Worksheet** if needed.These costs will then be indicated on **Attachment C** and returned to the Requesting Utility for consideration.
* Identify supervisors and staff to respond to the Requesting Utility, and consider which employees can adapt to the environment of the incident (consider physical and mental health impacts),
* Develop a Communications Plan between supervisors of the responding teams and the Responding Utility
* Conduct a deployment briefing with all responding team staff. Include the following items:
* ICS refresher training and review of the command structure of the incident, if known
* Pre-deployment health and safety considerations, including but not limited to immunizations, special tools, or clothing
* Environmental conditions onsite
* Care and shelter arrangements
* Rules of conduct during deployment, including but not limited to, activities allowed after work hours
* Review of documentation procedures
* Inform Requesting Utility of the Responding Utility’s deployment and estimated time of arrival

**Section 6.3 Requesting Utility Demobilization**

Following standard ICS practices of demobilization, the Requesting Utility writes a demobilization plan on how to coordinate the return of resources, including the debriefing of staff and the inspection of equipment and materials. The plan should:

* Capture personnel evaluations and identify future tactical resource needs. This would be conducted by both the Requesting Utility prior to releasing the personnel, as well as by the Responding Utility once its personnel are back.
* Identify release priorities and procedures. This would include internal resources, mutual aid resources, and any contracted resources.

**Section 6.4 Responding Utility Demobilization**

While preparing to demobilize and prior to leaving, the Responding Utility’s team is responsible to complete the following tasks:

* Deliver documentation collected during response to the Requesting Utility
* Return any sensitive or confidential information to the Requesting Utility
* Collect all information on costs and process it through the Requesting Utility Finance and Administration Function. Keep copies of all cost documentation for Responding Utility. Information includes:
  + Injury reports
  + Timesheets
  + Material purchased
  + Equipment used

The Responding Utility will prepare appropriate invoices as described in the OH WARN Agreement.

**Section 7.0 OH WARN Response Team Coordination**

In incidents that affect more than one utility at the same time, mutual aid/assistance coordination at a higher level may be necessary. As the incident response grows or, alternatively, when an emergency starts as a large-scale event (such as a catastrophic earthquake), OH WARN coordination can expand. As the need for coordination increases, trained OH WARN Response Team members, may be called upon from non-affected parts of the state to help the area that is affected during a large emergency. This would allow impacted utilities to focus on repair and restoration issues. During an incident that affects multiple counties, coordination at a region and/or state level may be necessary, where the Response Team may respond. When more than one Response Team member arrives at a reporting site, a Response Team leader is selected to communicate with the appropriate authorities. The following applies when coordination is needed at the operational area, region, or state levels.

Once a Utility Member contacts the OH WARN Steering Committee, any initial response effort may be managed by one person and then grow to include a team. If activated, the purpose of the OH WARN Response Team is to:

* Provide a point of contact and liaison for utility-related matters during an emergency
* Collect information regarding:
  + Extent and type of customer and infrastructure damages
  + General geographic location(s) of outages
  + Expected duration of outages
  + Number of customers affected
  + Resources and information requirements of the affected utilities
* Assist in locating emergency equipment, personnel, or material necessary for service restoration
* Advise utilities of restoration assistance and resources available

In order to achieve 24/7 staffing, the Response Team and the Utility Members must have accurate contact data, and the Response Team must establish a staffing plan and the means to keep it current, and then communicate it to the Utility Members. The Response Team may start activities virtually via e-mail or other communication methods. If the emergency calls for a full “team response,” the Response Team members may gather at the State EOC, a local EOC, or other designated location. When activated, the Response Team members are responsible for the overall management of the OH WARN response. (See **Attachment L** for details and information about the reporting sites.)

## Section 7.1 Response Team Member Roles and Responsibilities

The OH WARN Response Team is organized to assist as part of a Multi-Agency Coordination System (MACS) when water sector utilities need support. At the county or state level the OH WARN Response Team may become part of an Area Command. The general responsibilities include the following (See **Attachment I: OH WARN Response Team Member Checklist** for more detail):

* Coordinate and compile damage reports from utilities
* Coordinate damage assessment activities with other agencies (e.g., county emergency management agencies, utility engineers, etc.)
* Log, track, and display damage assessment information
* Provide damage assessment information to the OH WARN Team Leader or designated resource coordination Response Team member to facilitate incident prioritization
* Assemble and maintain information concerning critical facilities and special needs facilities associated with each utility included in the OH WARN Operational Plan
* Transmit Damage Assessment Reports to the other appropriate agencies, as requested
* Support mutual aid crews in the field interacting with the public to gather more information as the emergency unfolds, and methods to gather damage information
* Coordinate damage data with the state and FEMA responders to assist in the recovery process
* Act as a liaison to the Utilities Branch of the county, region, and/or state level emergency operation centers
* Identify one member of the OH WARN Response Team to represent OH WARN at the incident briefings and meetings
* Monitor the number of requests
* Identify possible sources of additional support for OH WARN Utility Members
* Identify gaps in the requests and resources available

The OH WARN Response Team coordinates various activities based on the type of incident and extent of damage. These activities may include collecting information, assisting in the location of response resources, and supporting coordination amongst response partners. As the incident expands, individual OH WARN Response Team members may be assigned to focus on one specific activity:

* Manage damage assessment data
* Receive, track, and monitor requests
* Coordinate resource orders
* Coordinate staging area information

**Section 7.2 Response Team Member Compensation**

The Response Team, depending on size of the emergency, may have a significant role to play coordinating the OH WARN response. The Requesting Utility shall jointly with the Response Team members determine if, when, and how labor, food, lodging, and other supplies expended by volunteer Response Team members will be reimbursed.

**Section 8.0 OH WARN Communication Tools**

**Section 8.1 Primary Communication Tools**

The primary communications tools available to the OH WARN Utility Members include the typical systems of landline telephone, cellular phone, fax and e-mail. A unique aspect of OH WARN is use of the OH WARN Website ([www.ohwarn.org](http://www.ohwarn.org)), which brings all of these systems together. The Website includes a list of OH WARN Utility Members and the contact information for each.

***Section 8.1.1 OH WARN Website***

OH WARN operates a Website which allows Utility Members to access relevant and up-to-date information before, during, and after an emergency. The Website includes a public and Member-only side. The public side allows for promoting and marketing of OH WARN and educating the general public on preparedness efforts of water/wastewater utilities.

The Member-only side of the Website allows access to information such as:

* OH WARN Emergency Notification Form (See **Attachment B: OH WARN Emergency Notification Form**)
* Resource Requests (See **Attachment C: OH WARN Request and Authorization Form** and **Attachment M:** ***AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual***)
* Damage Assessment Reporting

The Member-only side of the Website includes contact information all Utility Members, the Steering Committee and the Response Team. Issues or questions during response can be addressed by communicating with Steering Committee or Response Team contacts. Every **six months** Utility Members are encouraged to **print out** a hard copy of **contact information** from the website, so that when power or Internet is not available during an emergency, the data is still available.

Utility Members and Associate Members can gain access to the Member-only side of the OH WARN Website by completing the “New Member Registration” form on the website. In completing the form you will be required to provide your email address (login) and create a password for the site. Upon confirmation from the website administrator (typically within 48 hours), you will be granted access to the Members-only site. Record you member login and password below:

Login:

Password:

**Section 8.2 Secondary Communication Tools**

Secondary communication tools are utility-owned radio systems. Radio is secondary to landline telephone and cellular phone due to the lack of interoperability between radios. Interoperability of radio systems would be optimal, but cannot always be achieved, due to expense. It is preferable that OH WARN Utility Members consider alternative plans to achieve the same result. OH WARN Utility Members can maintain a cache of additional radios to distribute to incoming mutual aid/assistance supervisors for communications during an emergency. Additionally, OH WARN Utility Members can consider HAM radio as an optional backup radio system.

**Section 9.0 After Action Report and Improvement Plan**

**Section 9.1 After Action Report**

After an exercise or an incident, all OH WARN Members involved with mutual aid/assistance response are encouraged to meet and complete an After Action Report and consider creating an Improvement Plan. After action reviews and reports are typically carried out by OH WARN Utility Members who assisted in the OH WARN Response Team. It is recommended that all key players and groups involved in the response and recovery provide input. Therefore, if the incident is small and only involves a small number of OH WARN Utility Members, the affected utility may complete the after action report. If the incident is large and involves many agencies and jurisdictions, the OH WARN Response Team Members may coordinate the after action review and report process among all the participants. In this case, the OH WARN Team Leader can ask to participate in the after action review at the state level.

Typically, the designated Utility Member holds a debriefing to discuss the overall activities, state of affairs, and lessons learned. The debriefing reviews actions and activities from the response and recovery phases. OH WARN Response Team Members can expect to provide a quick review of activities under their function and describe what went well for them, what did not work well, what steps can be taken to improve the situation, or other lessons learned. This meeting allows for open discussion of opportunities for improvement, actions taken and the decisions they were based on, and potential future improvements.

The designated Member utility collects responses during this meeting and assembles them in an After Action Report that briefly summarizes the actions taken during the response. The After Action Report can include a brief description of the incident, the actions taken, and what needs to change in the future.

The following list of questions addresses key aspects of response. (The list is not all-inclusive.) In summary, the questions focus on what went well, what did not go well, what needs to be improved, or other lessons learned. The following questions are examples of what may be asked as part of an After Action Report:

* **Notification**
  + What was the number and frequency of notifications?
  + Did the number and frequency provide an accurate operational understanding of the emergency?
* **Activation**
  + How did activation occur for utilities, OH WARN, and other stakeholders?
  + How quickly did “full” activation occur between stakeholders that responded?
  + How can the activation process be improved or streamlined?
  + Were the different departments (or jurisdictions and agencies) able to activate their plans and processes during this incident?
* **Coordination**
  + Were Utility Members well-coordinated and matched to assignments according to skill?
  + What can be done in the future to maximize available resources?
  + What went well? Were the goals met?
  + What went wrong and what was done to correct it?
  + What can be improved?
  + Were resources interoperable?
  + Were the resources that were requested the same as the ones that were delivered?
  + Were databases used and are they interoperable across different workgroups and jurisdictions?
* **Mobilization**
  + Was the information gathered from notifications sufficient to accurately organize and prepare for mobilization?
  + How quickly did “full” mobilization occur between stakeholders that responded?
* **Operational Support**
  + What actually occurred at all levels of participation (timeline)?
  + What were the pre-event plans and processes for preparedness, response, recovery, and mitigation?
  + Did the plans and processes meet the need of jurisdictions and agencies responding to this event?
  + How accurately were resource requests anticipated and fulfilled?
  + How can procedures for pre-staging resources, making and fulfilling resource requests, tracking and reporting on resource status, and recovering resources be improved?
  + How accurately were personnel requests anticipated and fulfilled?
  + What were some success stories?
  + What areas need improvement to facilitate response in the future?
* **Demobilization**
  + Was a demobilization plan in place before the event? Was it followed?
  + What worked well?
  + What did not work well and were steps taken to address the situation?
  + What can be improved for the future and what options are available?
* **Miscellaneous** 
  + What are some other lessons learned not captured above?

**Section 9.2 Improvement Plan**

The After Action Report, with its assessments and recommendations, serves as the basis for the Improvement Plan, which is sometimes referred to as a Corrective Action Plan. An Improvement Plan includes the broad recommendations for improvements, the agreed-upon corrective actions, a timeline for making the changes, and an assignment of responsibilities to individuals or organizations. Below are elements for an Improvement Plan:

* Measurable corrective actions
* Designated projected start date and completion date
* Corrective actions assigned to an organization and a point of contact within that organization
* Corrective actions continually monitored and reviewed as part of an organizational Corrective Action Program
* An individual can be elected or appointed to manage a Corrective Action Program to resolve corrective actions resulting from exercises, policy discussions and real-world events and support the scheduling and development of subsequent training and exercises

**Section 10.0 Attachments**

Attached are supporting documents, checklists, and forms used in response to an emergency.

Attachment A: OH WARN Requesting Utility Checklist

Attachment B: OH WARN Emergency Notification Form

Attachment C: OH WARN Request and Authorization Form

Attachment D: OH WARN Cost Estimator Worksheet

Attachment E: OH WARN Mutual Aid/Assistance Coordinator Checklist

Attachment F: OH WARN Staging Area Manager Checklist

Attachment G: OH WARN Daily Briefing Considerations

Attachment H: OH WARN Responding Utility Checklist

Attachment I: OH WARN Response Team Member Checklist

Attachment J: OH WARN Request Summary Sheet

Attachment K: OH WARN Activity Log

Attachment L: OH WARN State Emergency Operations Center/WARN Response Coordination

Attachment M: OH WARN Operational Plan Project Team 2010

Attachment N: AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual*

# Attachment A: OH WARN Requesting Utility Checklist

**Purpose:** The Authorized Representative of a utility that requests mutual aid and assistance is encouraged to use this checklist to track decisions and actions to request mutual aid and assistance. It is used in conjunction with other forms in this OH WARN Operational Plan.

**Instructions:** Review Attachments A, B, C and D together. Complete actions in this checklist. Complete Attachment B and C forms.

NOTES

* Analyze the situation and determine the best alternatives to address the emergency.
  + Ensure a real need exists. Mutual aid/assistance is designed to augment resources already effectively committed.
* Using the resource types in the AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual, determine resource and personnel needs that cannot be met by your utility that may be available through mutual aid/assistance.
* What non-utility agencies are responding to the emergency: law, fire, public works, state environmental, public health, emergency management, American Red Cross, etc.?
* Determine how significant the emergency is; does it include city, county, state, or federal resources?
* Has a local emergency been declared by the local government? Has the Governor declared an emergency? Has the President declared an emergency?
* Are normal electrical and natural gas services, vehicle fuel, and communications available?
* Complete **Attachment B: OH WARN Emergency Notification Form**, to inform utilities of the impact on your utility.
* Notify the local emergency management agency of your need for mutual aid/assistance.
* Contact neighboring utilities with which your utility has a local mutual aid/assistance agreement. Provide them the completed **Attachment B: OH WARN Emergency Notification Form**.
* If assistance is not available from neighbors, identify other OH WARN Utility Members to determine if they are also affected by the emergency or can provide the mutual aid/assistance. Continue the process until you locate a utility. If the OH WARN Response Team is established, contact the team.
* If you locate a utility that can send aid, discuss the conditions of the utility, what is needed, and initiate **Attachment C: OH WARN Request and Authorization Form**. The Responding Utility estimates costs using **Attachment D: OH WARN Cost Estimator Worksheet** which will help determine cost estimates required in Attachment C. Attachments C and D are returned to you for final approval of acceptance of the aid.
* As needed, identify a person at your utility to manage all incoming mutual aid/assistance. The Mutual Aid/Assistance Manager can use **Attachment E: OH WARN Mutual Aid/Assistance Coordinator Checklist**.
* Once mutual aid/assistance is deployed, notify the local emergency management authority of the arrangements for incoming resources.
* Notify local utility unions of incoming mutual aid/assistance and identify the process for assigning work between utility staff and mutual aid/assistance teams.
* As systems return to near normal, begin to determine when to demobilize mutual aid crews.
* Demobilization

Follow standard ICS practices of demobilization, including:

* + On small incidents, the demobilization process may be quite simple, and can be handled by an Authorized Representative
  + On larger incidents, a Response Team Member can be designated to develop a Demobilization Plan
  + Capture personnel evaluations and identify future tactical resource needs

If a formal Demobilization Plan is indicated, ensure that it includes the following five sections:

* + General Information
  + Responsibilities
  + Release Priorities
  + Release Procedures
  + Directory (maps, phone listings, etc.)

While preparing to demobilize the Requesting Utility needs to:

* + Collect damage and response cost figures
  + Accept bill(s) from Responding Utilities
  + Provide payment, according to the OH WARN Agreement
  + As appropriate, submit for FEMA or other reimbursement mechanisms
* Post demobilization:
  + Collect names of mutual aid/assistance teams and supervisors
  + Send letters of thanks
  + Request input for After Action Report
  + Send copies of After Action Report

# Attachment B: OH WARN Emergency Notification Form

**Purpose:** The Authorized Representative of the Requesting Utility needs to provide written information regarding the emergency, level of impact, and conditions. This form does not replace damage assessment forms required by other organizations.

**Instructions:** Complete form by checking boxes or circling where appropriate. Provide level of detail available. Complete Section 1 of Attachment C and forward both Attachment B and C to city/county and/or OH WARN Utility Member.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Water System Status Report** | | | | |
| **INCIDENT REPORT #:** | | | | |
| Date/Time: | | | | |
| Utility Name: | | | | |
| City and County: General Phone Number: | | | | |
| Contact: | | | | |
| E-mail: Cell Number: Fax: | | | | |
| General Location of Emergency: | | | | |
| Has Utility EOC been activated: Yes No Unsure | | | | |
| Declaration of Local Emergency: Yes No Unsure | | | | |
| **Critical Issues** (and actions taken):  Note if untreated water is affected. | Pipes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Pump Stations\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reservoirs/Tanks\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Wells\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Connection(s) Status/Flow change request(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Power/Communications\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Chemical\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| **Water Quality** | | Contamination:  Yes  No  Undetermined | | |
| Water Quality Order:  Boil Order  Do Not Drink  Do Not Use | | |
| Order Issued by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Est Lift Order:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |
| Status Detail | | | Status | Remarks/Comments |
| Percentage of potable water system inoperable: | | | % |  |
| Anticipated duration of outage: (hours/days) | | |  |  |
| Number of jurisdictions affected: | | | # |  |
| Number of people affected: | | | # |  |
| Mutual aid received in last 24 hours: | | | Yes  No |  |
| Mutual aid needed in next 24 hours: | | | Yes  No |  |
| Actions taken by Utility: | | |  | |
| Actions taken by Coordinating Partners: | | |  | |
| Form Completed By: | | | | |
| Name: Title: | | | | |
| Signature: | | | | |
| Phone Number: Cell Phone: | | | | |
| Additional Notes: | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Wastewater System Status Report** | | | |
| **INCIDENT REPORT #:** | | | |
| Date/Time: | | | |
| Utility Name: | | | |
| City and County: General Phone Number: | | | |
| Contact: | | | |
| E-mail: Cell Number: Fax: | | | |
| General Location of Emergency: | | | |
| Has Utility EOC been activated: Yes No Unsure | | | |
| Declaration of Local Emergency: Yes No Unsure | | | |
| **Critical Issues** (and actions taken): | Pipes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Lift Stations\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Outfall\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Chemical Status\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Power/Communications\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Other\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |
| **Treatment Status** | Operational  Non-Operational  Release of Untreated Wastewater Amount:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Has Untreated Wastewater reached a water way: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |
| Status Detail | | Status | Remarks/Comments |
| Percentage of wastewater system inoperable: | | % |  |
| Anticipated duration of outage: (hours/days) | |  |  |
| Number of jurisdictions affected: | | # |  |
| Number of people affected: | | # |  |
| Mutual aid received in last 24 hours: | | Yes  No |  |
| Mutual aid needed in next 24 hours: | | Yes  No |  |
| Actions taken by Utility: | |  | |
| Actions taken by Coordinating Partners: | |  | |
| Form Completed By: | | | |
| Name: Title: | | | |
| Signature: | | | |
| Phone Number: Cell Phone: | | | |
| Additional Notes: | | | |

# Attachment C: OH WARN Request and Authorization Form

**Purpose:** Authorized Representative of both the Requesting and Responding Utility Members can track approved cost associated with sending/receiving mutual aid and authorizing deployment and reception of the assistance. This form is used with Attachment B when a Responding Utility is located and agrees it has resources to send.

**Instructions:** TheRequesting Utility fills out Part I of this form completely. Attaches it to a completed Attachment B and forwards it to the Responding Utility who completes Part II. The Responding Utility can use Attachment D as a worksheet to determine the cost estimates requested on this form. The form is returned to the Requesting Utility to authorize acceptance of the aid and negotiated cost identified by the Responding Utility. Once the Requesting Utility completes Part III, a copy is returned to the Responding Utility for record keeping. A copy is also sent to the OH WARN Response Team for completing their documentation and notation in Part IV.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Part I: To Be Completed By The Requesting Utility** | | | | | | | | | |
| Dated: | | Time: hrs | | | From the County of: | | | | |
| Contact Person: | | | | | Telephone: | | | | Fax: |
| OH WARN Utility Member: | | | | | Authorized Rep: | | | | |
| Type of Emergency & Impact to Utility: | | | | | | | | | |
| Personnel, Expertise, Equipment & Material Needed (Follow terminology in AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual): | | | | | | | | | |
| Preferred Resources Requested (Follow resource types in AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual): | | | | | | | | | |
| Single Resource | Team | | | Kind | | Type | | Description | |
|  |  | | |  | |  | |  | |
|  |  | | |  | |  | |  | |
|  |  | | |  | |  | |  | |
| Date & Time Resources Needed: | | | | | Staging Area: | | | | |
| Approximate Date/Time Resources To Be Released: | | | | | | | | | |
| Requesting Authorized Rep: | | | | | Req. Authorized Rep’s Signature: | | | | |
| Title: | | | Utility: | | | | Request No: | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Part II: TO BE COMPLETED BY THE RESPONDING UTILITY** | | | | | | | | |
| Contact Person: | | | | Telephone: | | | | Fax: |
| Type of Personnel, Expertise, Equipment & Material Available (Follow terminology in AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual) | | | | | | | | |
| Preferred Resources Deployed (Follow resource types in AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual): | | | | | | | | |
| Single Resource | Team | | Kind | | Type | | Description | |
|  |  | |  | |  | |  | |
|  |  | |  | |  | |  | |
|  |  | |  | |  | |  | |
| Date & Time Resources Available From: | | | | To: | | | | |
| Staging Area Location: | | | | | | | | |
| Estimated Total Costs To Send Requested Assistance: $ | | | | | | | | |
| Trans. Costs from Home Utility to Staging Area: $ | | | | Trans. Costs to Return to Home Utility : $ | | | | |
| Care, Shelter, Feeding Costs Required For Response: $ | | | | | | | | |
| Responding Authorized Rep: | | | | Res. Authorized Rep’s Signature: | | | | |
| Title: | | | | Utility: | | | | |
| Dated: | | Time: hrs | | | | Request No: | | |
| **Part III: REQUESTING UTILITY CONFIRMATION AND APPROVAL** | | | | | | | | |
| Authorized Rep Name: | | | | Location: | | | | |
| Signature | | | |  | | | | |
| Dated: | | Time: hrs | | | | Request No: | | |
| **Part IV: OH WARN COORDINATION (as needed)** | | | | | | | | |
| OH WARN Rep: | | | | Location: | | | | |
| Signature | | | |  | | | | |
| Dated: | | Time: hrs | | | | Request No: | | |
| **Additional Information:** | | | | | | | | |
| **Miscellaneous ItEMS / OTHER Information** | | | | | | | | |

# Attachment D: OH WARN Cost Estimator Worksheet

**Purpose:** The Authorized Representative of a Responding Utility uses this form to determine costs associated with sending mutual aid/assistance.

**Instructions:** Identify costs associated with deploying assistance. Complete information requested by this form, which can be used in Microsoft Excel.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1. TEAM/PERSONNEL/EQUIPMENT Requested1:** | |  | | | | | | | | |
| **Personnel** (insert lines above subtotal as needed) | **Position(s)** | **Reg Salary Hourly Rate** | **Fringe Benefit Hourly Rate** | **# of Reg Hours Worked per Day** | **Overtime Salary Hourly Rate** | **Fringe Benefit Overtime Hourly Rate** | **# of OT Hours Worked per Day2** | **# of Days on Mission** | **Total Daily Cost** | **Total Mission Cost** |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
|  |  |  |  |  |  |  | 12 |  | $0.00 | $0.00 |
| ***Subtotal:*** | | | | | | | | | **$0.00** | **$0.00** |
|  |  |  |  |  |  |  |  |  |  |  |
| **Equipment** | **Item** | **Hourly Rate3** | **No. of Hours** | **Total** | **Notes:** |  |  |  |  |  |
| (insert lines above subtotal as |  |  |  | $0.00 |  | | | | | |
| needed) |  |  |  | $0.00 |
|  |  |  |  | $0.00 |
| ***Subtotal:*** | | | | **$0.00** |
|  |  |  |  |  |
| **Commodities/Materials** | **Item** | **Unit Cost** | **Quantity** | **Total** |
| (insert lines above subtotal as |  |  |  | $0.00 |
| needed) |  |  |  | $0.00 |
|  |  |  |  | $0.00 |
|  |  |  |  | $0.00 |
| ***Subtotal:*** | | | | **$0.00** |
|  |  |  |  |  |
| **Other Costs4** | **Item** | **Unit Cost** | **Quantity** | **Total** |
| (insert lines above subtotal as |  |  |  | $0.00 |
| needed) |  |  |  | $0.00 |
|  |  |  |  | $0.00 |
| ***Subtotal:*** | | | | **$0.00** |
|  |  |  |  |  |
| **2. TRAVEL** | **Units** | **Description** |  | **Total** |
| **Lodging** | $/person/night |  | |  |
| **Food** | $/day/person |  | |  |
| **Personal Vehicle** | # x miles x 0.0488/mile |  | |  |
| **Government Vehicle** | # x miles x 0.0488/mile**5** |  | |  |
| **Rental Vehicle** | daily/weekly rate as applicable x duration |  | |  |
| **Air Travel** | $/person/roundtrip |  | |  |
| **Other Travel** | as necessary |  | |  |
| ***Subtotal:*** | | | | **$0.00** |
|  |  |  |  |  |
| **3. TOTAL EXPECTED DEPLOYMENT COST:** | | | | **$0.00** |
| **Footnotes:** |  |  |  |  |  |  |  |  |  |  |
| **1 From requestor, may be more than one and of different kind/type** | | |  |  |  |  |  |  |  |  |
| **2 Assumes a 12-hour work day** |  |  |  |  |  |  |  |  |  |  |
| **3 Use FEMA rates if unknown** |  |  |  |  |  |  |  |  |  |  |
| **4 Items to Consider:** Fuel for equipment, O&M for equipment | |  |  |  |  |  |  |  |  |  |
| **5 Consult the Internal Revenue Service for latest federal government reimbursement rate** | |  |  |  |  |  |  |  |  |  |

# Attachment E: OH WARN Mutual Aid/Assistance Coordinator Checklist

**Purpose:** Authorized Representative of both Requesting and Responding Member utility or staff appointed to coordinate incoming mutual aid/assistance resources use this checklist to ensure mutual aid/assistance resources are prepared for deployment.

**Instructions:** Review this checklist as ongoing discussion between Requesting and Responding Utility occurs. Put notes in the right-hand column.

NOTES

**Staging Area**

* Identify a location outside the immediate impact area to serve as a Staging Area.
  + What is the address of the Staging Area?
  + What is the Staging Area Manager’s Name?
  + What is the Staging Area Manager’s Contact Information?
  + What services will be available at the Staging Area?
    - Are supplies and personnel available to repair heavy or light equipment?
    - Does Responding Utility need to bring a mechanic, tools, equipment and supplies?
    - Are tire repair services available?
    - If not available, are commercial services available?
    - Are fuel services available (gasoline and diesel)?

**Transportation Impacts**

* From the Requesting Utility gather responses to the questions in the top row in each of the following areas.

|  | Which interstates or highways are open nearby each area? | Does debris hinder access near or to each area? | Which train or rail systems are operational nearby each area? | Which airports are operational? |
| --- | --- | --- | --- | --- |
| Staging Areas |  |  |  |  |
| Utility Service Yards |  |  |  |  |
| General Work Areas |  |  |  |  |
| Lodging / Hotel Areas |  |  |  |  |
| Shelter Facilities |  |  |  |  |
| Feeding Operations Sites |  |  |  |  |
| Restaurants and Stores |  |  |  |  |

**Communications Impacts**

* From the Requesting Utility gather responses to the questions in each of the following areas.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Are landline telephone systems operational? | Are cell phone systems operational? | Are satellite phone systems operational? | Are utility radio systems operational? | Is the Internet operational? |
| Staging Areas |  |  |  |  |  |
| Utility Service Yards |  |  |  |  |  |
| General Work Areas |  |  |  |  |  |
| Lodging / Hotel Areas |  |  |  |  |  |
| Shelter Facilities |  |  |  |  |  |
| Feeding Operations Sites |  |  |  |  |  |
| Restaurants and Stores |  |  |  |  |  |

**Utility Impacts**

* From the Requesting Utility gather information on how utility outages are affecting each of the following areas.

|  | Electrical outages | Natural gas outages | Potable water outages | Wastewater outages |
| --- | --- | --- | --- | --- |
| Staging Areas |  |  |  |  |
| Utility Corp Yards |  |  |  |  |
| General Work Areas |  |  |  |  |
| Lodging / Hotel Areas |  |  |  |  |
| Shelter Facilities |  |  |  |  |
| Feeding Operations Sites |  |  |  |  |
| Restaurants and Stores |  |  |  |  |

**Field Response Operations**

* Have curfews or other conditions been enforced by local government that might affect movement to and from worksites, feeding locations, and lodging?
* Identify additional communications operability:
  + Does Requesting Utility have satellite phones to provide Responding Utility?
  + Does Requesting Utility have local portable cell phone systems (temporary, mobile cellular systems)?
  + If operational, how does the utility communication system function?
    - What frequency does the Requesting Utility operate on?
    - Will Requesting Utility provide their radios to Responding Utility?
    - If yes, are radios available at the Staging Area?
    - If there are not enough radios to give to all Responding Utility staff, are there enough radios to give to the Responding Utility supervisors?
    - Does Requesting Utility use amateur radio equipment for emergencies? If yes, is equipment available?
* What navigation issues should the Responding Utility be aware of?
  + Are street signs in place?
  + Are utility maps available (hardcopy or electronic)?
  + Do utility maps include GPS coordinates?
  + Are GPS units available?
  + Are maps and/or GPS units going to be available at the Staging Area?
  + Are interstates and highways open?
* What sanitation services are available in the field?
  + Water for drinking
  + Water for sanitation
  + Restroom (e.g. using port-a-potties)
* What debris clearance equipment is needed?
  + Are chainsaws required to provide response and repairs?
  + Is other debris clearance equipment or tools required?
* Identify financial services capabilities:
  + Are ATMs functional?
  + Are credit cards being accepted locally?
  + Are banks open?
  + Is cash the only source of payment? If yes, what is recommended amount of cash to bring?
  + Are coins needed for laundry or other services?

**Care and Shelter**

* What accommodations are available?
  + Hotels
  + Fire Base Camp
  + County/State Sponsored Base Camp
  + Utility Temporary Shelter
  + Outside Agency Housing
    - If yes, what is the name of the agency (e.g. American Red Cross, faith-based organization, etc.)
  + None - Responding Utility must be self-sufficient.
* How are arrangements being addressed?:
  + Who is arranging for rooms? Requesting or Responding Utility?
  + Who is paying for rooms? Requesting or Responding Utility?
  + How far are the arrangements from the staging area?
  + How far are the arrangements from the work area?
  + Where is it located (address):
* What amenities are available at the available sites?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Hotel | Incident Base Camp | County or State Base Camp | Utility Temporary Shelter | Red Cross or other Shelter | Camp-grounds |
| How far from work areas? |  |  |  |  |  |  |
| Has feeding operations available on site? |  |  |  |  |  |  |
| Has potable water for drinking? |  |  |  |  |  |  |
| Has water for bathing? |  |  |  |  |  |  |
| Has water for sanitation? |  |  |  |  |  |  |
| Has operating restrooms? |  |  |  |  |  |  |
| Requires use of portable toilets? |  |  |  |  |  |  |
| Has operating showers? |  |  |  |  |  |  |
| Has beds or cots? |  |  |  |  |  |  |
| Has bedding? |  |  |  |  |  |  |
| Has a functional laundry facility? |  |  |  |  |  |  |
| Has a functional laundry facility nearby? |  |  |  |  |  |  |
| Has or allows portable emergency generator power? |  |  |  |  |  |  |
| Fuel (or diesel) is available nearby for generators? |  |  |  |  |  |  |
| Nearby campgrounds have water and sewer hook ups? |  |  |  |  |  |  |

* Determine feeding operations.
  + Are restaurants available in or around the work area or lodging area?
    - How far do the responders need to travel?
    - Who is paying for the meals when ordered? Responding or Requesting Utility?
  + Does Requesting Utility have alternate feeding operations in place?
    - Mobile canteen
    - Services from American Red Cross or faith-based organization (if so, specify who)
    - Contract services
  + Are grocery stores open?
    - If yes, how far are grocery stores from work site or lodging?
    - Is rationing in place?
    - Are grocery stores limited in stock?
  + If grocery stores are available, what support services are available?
    - Cooking facilities with functional utilities?
    - Refrigeration systems local to work site, staging area, or lodging?
    - Ice deliveries in operation or available?

**Employee Safety Measures**

* What is the expected temperature and humidity?
  + Is special weather gear required?
* What personal protective equipment is needed beyond basic equipment (hard hat, safety vest, safety shoes, mud boots, work gloves, raingear and eye and ear protection)?
* What additional exposures may responders encounter (e.g. significant odors, contamination, etc.)?
* What personal inoculations should be considered?
  + Tetanus
  + Hepatitis A or B
  + Flu
  + Other \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
* Are hospitals functional?
* Are paramedic and/or ambulance services functional?
* How significant is the disaster to the public?
  + Significant damage due to incident (e.g. many homes destroyed, off foundations, etc.)?
  + Significant emotional impact due to loss of life or suffering?
  + What is chance of finding deceased humans?
  + What is chance of finding significant numbers of dead livestock or pets?
* Are trained incident stress debriefing teams available?

**Documentation**

* Requesting Utility has electronic or hard copy means of tracking employee hours, materials used, and other documentation?
* Requesting Utility has means to accept digital photography for documentation?
* Requesting Utility optimizes use of ICS forms and documentation?
* Requesting Utility has method to track costs for FEMA reimbursement?

**Reimbursement Process**

* Request Cost Estimate of responding resources prior to approving their deployment. (See **Attachment D** for details.)
* Approve or disapprove costs prior to requesting deployment.
* Identify means for managing injury claims.

**Sign Off:**

Name of Person Completing Checklist: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title of Person Completing Checklist: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date/Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Attachment F: OH WARN Staging Area Manager Checklist

**Purpose:** Personnel assigned to coordinate the arrival of mutual aid/assistance at a remote location near the event needs to track actions to support mutual aid/assistance.

**Instructions:** Complete actions in this checklist. Complete Attachment H and I as needed.

NOTES

**General Duties**

* Establish Staging Area layout.
* Draw a map of the area; consider using spray paint to mark areas.
* Establish Check-In function for personnel in coordination with the EOC.
* Establish Check-In function for supplies and resources in coordination with the EOC.
* Identify resources that may be needed to initiate, sustain, and demobilize the efforts required during an emergency operation.
* Dispatch resources at the Operations Section Chief’s request.
* Maintain records of all resources entering, deployed to, and demobilized from the staging area.
* Coordinate with the Logistics Section for temporary feeding, fueling, and sanitation services as needed to support the Staging Area.
* Provide for the mechanical, technical, and maintenance needs of the resources requested or required.
* Respond to requests for resource assignments.
* Ensure the safety of personnel and equipment in the staging area.
* Obtain and issue radios and other supplies as required.
* Provide the EOC with status information of personnel, equipment, and supplies in the Staging Area.
* Provide for the orderly demobilization of resources as the incident command structure is dissolved.

**READ ENTIRE CHECKLIST AT START-UP AND**

**AT BEGINNING OF EACH SHIFT**

**Checklist Actions**

**Start-Up Actions**

* Determine any immediate unmet needs and/or outstanding resource requests for staging.
* Proceed to Staging Area.
* Post areas for identification and traffic control.
* Establish check-in procedure/forms for arriving resources, keep all receipts.
* Set up communications between the EOC and the staging area(s).
* Staff staging areas with additional personnel to load, unload, stock, deliver, and distribute supplies and keep pertinent records.
* Obtain and issue radios and other supplies needed for staging area operations as needed.
* Request personnel through the EOC.
* Determine any support needs for equipment, feeding, sanitation, and security. Request maintenance service for equipment at Staging Area as appropriate.
* Keep a log of items requested and check to see that they have been ordered, sent, received, and distributed to the requesting individual. (This MUST be done continually to ensure that requests are filled as expeditiously as possible).
* Respond to request for resource assignments.
* Dispatch resources as requested.
* Notify the individual that requested the item of the status of the resource request:
  + Date and time of delivery of goods and material.
  + Delivery site.
  + Type and quantity of goods and material to be delivered as well as any items that are not available.
* Obtain and issue receipts for radio equipment and other supplies distributed and received at Staging Area.
* Frequently determine required resource levels from the Operations Section Chief.
* Advise the Operations Section Chief when reserve levels reach minimums.
* Maintain and provide status to Resource Unit of all resources in Staging Area.
* Maintain Staging Area in safe and orderly condition.
* Ensure all personnel time and costs are tracked for reimbursement.
* Document:
  + Messages received
  + Action taken using **Attachment K: OH WARN Activity Log**
  + Decision justification and documentation
  + Requests filled

**Deactivation**

* Deactivate Staging Area Manager and staging area(s) when no longer required.
* Provide for the orderly demobilization of resources as the incident command structure is dissolved.
* Ensure any unfinished business is completed before leaving or passed on to Logistics.
* Ensure any required forms or reports are completed prior to your release and departure.
* Be prepared to provide input to the After-Action Report.
* Deactivate your section and close out logs when authorized by Logistics.
* Demobilize Staging Area in accordance with Incident Demobilization Plan.
* As necessary, give the EOC Manager a forwarding phone number where you can be reached.

# Attachment G: OH WARN Daily Briefing Considerations

**Purpose:** Field Supervisors utilize this list as a starting list of considerations for Daily Staff briefings with mutual aid/assistance responding teams.

**Instructions:** Complete actions in this checklist.

NOTES

* Provide schedule of briefings for daily work assignments.
* Provide a status report on current conditions, status of systems and repairs, as well as any other event-specific updates.
* Provide information or resources to establish communication between the supervisor of incoming teams and supervisor of your utility.
* Provide system maps and work assignments.
* Explain current field conditions and safety requirements.
* Review key standards your utility uses for pipe repairs, fittings, and distribution methods.
* Identify critical equipment that may need to be used to complete the repairs.
* Identify locations and purchasing procedures for fuel, supplies, and parts.
* Where are contaminated soil(s) to be placed or relocated?
* Provide necessary forms required for documentation.
  + Work Hours/Overtime
  + Materials/Resources Expensed
  + Worksite Repair Information
* Review work hours, breaks, and respite facilities available in the field.
* Review where emergency medical attention can be received and reporting procedures for injuries.

# Attachment H: OH WARN Responding Utility Checklist

**Purpose:** The Authorized Representative of a Responding Utility may track actions to deploy mutual aid/assistance.

**Instructions:** Complete actions in this checklist and make notes in right-hand column.

NOTES

* **If notified of emergency prior to a request for assistance, contact the OH WARN Response Team if activated to inform them of availability.**
* **When a request for aid/assistance arrives, assess request.**
  + Review types of damage and what teams may be expected to deal with (size/type of pipe repairs, etc.). (See **Attachment B**.)
    - Nature of the emergency
    - Impact on the utility
    - Has an emergency been declared by local government?
    - Have curfews or other conditions been enforced by local government that might affect movement to and from worksites, feeding locations, and lodging?
    - Determine resource type requirements, evaluate the following needs to select the appropriate resource typing team in the AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual:
    - Desirable personnel skills and certification
    - Resource type and capability
    - Determine appropriate materials to accompany the teams
    - Estimate length of time aid/assistance is required
    - Determine method of care and shelter for personnel and resources
    - Review **Attachment E: OH WARN Mutual Aid/Assistance Coordinator Checklist** with Requesting Utility
    - Confirm billing rates for use of personnel and equipment
  + Review types of resources needed, materials needed, number of teams needed, and skills required.
    - Identify equipment operation qualification requirements:
  + Security and storage of service vehicles and equipment
  + Identify reporting location
  + Identify Point of Contact at the location
  + Identify designated supervision methodology
  + Responsibility for equipment security
  + Procedures for returning equipment to Requesting Utility
  + Equipment transfer, inspection, and contact information
  + Licensing requirements for transport
  + Transportation and other equipment’s fuel considerations
  + Managing lost, damaged, destroyed, or stolen equipment
  + How long are teams needed? Is there need for "relief” teams for first set of teams?
  + How does sending teams affect your utility current operations?
* **Review reimbursement expectations and process.**
* **Prepare documentation on the costs associated with sending the assistance, and submit it to the Requesting Utility. (See Attachment D.)**
  + Be clear on how teams would be sheltered and fed. Identify any risk associated with shelter or feeding.
  + Notify elected officials.
* **Review request to determine what aid/assistance the Responding Utility can provide. Confirm approval from utility management to provide aid/assistance.**
* **Complete pre-deployment personnel activities.** 
  + Identify an Incident Commander in charge of the deployment team. Appoint General Staff (Operations, Planning, Logistics and Finance) to manage the deployment of the team. (Upon arrival at the destination utility, report to the Staging Area as the Utility Representative. The deployment team Incident Commander may be reassigned as a unit supervisor within the operations section.)
  + Identify how teams are selected. Identify specialized work rules. Review with any union leadership.
  + Identify a communications plan for teams. How do they communicate with each other, the borrowing agency, and family?
  + Identify teams for travel.
  + Conduct review with teams. Review:
    - Level of disaster and impact on community to prepare teams emotionally
    - Conditions and potential for contamination and personal protective equipment needs
    - Logistics arrangement for care, shelter, feeding, etc.
    - Communication plan
    - Employee work rules
    - Medical considerations and needs for inoculation
    - Incident Command System (ICS)
    - Documentation protocols
* **Prepare resources for deployment:**
  + Inspect vehicles for travel and equipment use.
  + Inventory and standardize stock of equipment and supplies on vehicles.
  + Send a mechanic with teams and equipment.
  + Ensure emergency food and water is present on all vehicles.
  + Ensure availability of first aid kits and other emergency supplies.
* **While teams are away:**
  + Check daily with supervisor.
  + Review costs associated with assistance.
  + Review the number of hours each team is working. How long will work last?
  + Identify problems with lodging or feeding.
  + Provide daily summary of events to the General Manager.
* **While preparing to demobilize, the Responding Utility is responsible to:**
  + Deliver documentation collected during response to the Requesting Utility
  + Return all resources to the Requesting Utility that the Responding Utility may have in their possession
  + Return any sensitive or confidential information to the Requesting Utility
  + Collect all information on expenses and process it through the Requesting Utility finance and administration staff. Information includes:
    - Injury reports (if applicable)
    - Timesheets
    - Material purchases
    - Resource usage
  + Submit bills for services as appropriate, according to the OH WARN Agreement
* **Upon return:**
  + Hold debriefing with the supervisors within seven days.
  + Hold debriefing with all teams within 14 days. Include General Manager or other appropriate staff.
    - Identify lessons learned.
    - Identify problems and successes.
    - Review hours worked and efforts made.
    - Provide feedback to requesting agency.
    - Review ideas to improve own readiness.
* **Within 60 days:**
  + Prepare a report of events to present to the General Manager.
  + Submit bill for personnel and other costs for mutual aid/assistance response.

# Attachment I: OH WARN Response Team Member Checklist

**Purpose:** Trained Utility Members staff who will act as part of the OH WARN Response Team use this checklist to track actions and operate as a OH WARN Response Team.

**Instructions:** Complete actions in this checklist. Arrive at OH WARN Response Team location.

NOTES

* Once notified of need to activate the OH WARN Response Team, make travel arrangements to the designated utility coordination site;
* Make lodging arrangements (see Appendix N for nearby locations);
* Bring all necessary personal items with you for the period of time requested; and
* Follow directions to get to the designated location provided in Appendix N.

Once you have reached the utility coordination center, complete the following:

**Startup activities**

* Sign in and identify self at security point check in;
* Check in with the OH WARN Leader to receive an initial briefing on the general situation and immediate tasks to be performed. Briefing should:
  + Detail nature and extent of emergency;
  + Identify extent of affected utilities and status;
  + Describe nature of assignment;
  + Provide status report update and criteria; and
  + Identify contact person to receive the information.
* Review any posted information and Incident Briefing ICS Forms 200, 201 and 202 for critical contact information;
* Review or open and maintain an Activity Log (see **Attachment K**). At a minimum, the Activity Log should record the following for each utility contacted:
  + Date and time;
  + Contact name and number;
  + Communications/coordination received/made; and
  + Follow-up required/completed.

**Communications recorded should include conversations in which decisions were reached, instructions given or received, and vital information exchanged.**

* Contact utilities in affected areas to determine situation and any assistance that may be required;
* Alert the OH WARN Leader of emerging issues or concerns you perceive as “sensitive”;
* Keep all related status boards up-to-date;
* Coordinate with the OH WARN Leader regarding your shift commitment and assist in identifying Utility Representatives to relieve you at the end of your shift;
* Provide comprehensive shift turnover briefing; and
* As questions arise, contact the OH WARN Leader for direction.

**General activities**

Support the OH WARN Leader by providing specific utility knowledge and sector representation by doing the following activities:

* Provide regular updates to the OH WARN Leader with significant changes in utilities’ status;
* Contact and receive calls from utilities in affected areas of the emergency regarding damages to services/infrastructure;
* Determine utility-specific resource and/or information needs;
* Maintain logs, Status Boards, and prepare Status Reports;
* Identify:
  + extent and type of customer and infrastructure damage;
  + general geographic location of utility outages;
  + expected duration of outages;
  + numbers of customers affected by county; and
  + resource requirements and/or information needs.
* Assist utilities in procuring resources, personnel, and provisions necessary for restoration of services;
* Communicate utility damage information and restoration priorities between government agencies and utilities, as necessary;
* Ensure regular updates to the OH WARN Leader on restoration concerns;
* Assist with inter-utility response coordination;
* Facilitate utility mutual aid/assistance as necessary/requested;
* Serve as liaison between utilities and emergency management for extraordinary assistance;
* Through the OH WARN Leader, provide utility Status Reports and special needs requests as indicated; and
* Perform additional duties to support the utility sector as requested by the OH WARN Leader.

**Shift briefings should occur between the outgoing and incoming representatives and at a minimum include the following:**

* Alerts to any safety related issues that could impact utility personnel;
* A review of the Activity Log with particular emphasis given to the follow-up columns;
* Immediate tasks to be performed that have either been assigned by the OH WARN Leader or required by the follow-up information on the Activity Log;
* A review of the current Utilities Outage and Restoration Status Report; and
* A review of special key contact names and numbers outside of the OH WARN contact database developed during event communications.

**Mutual Aid / Assistance Request**

If mutual aid/assistance is needed, record the following:

* Name and contact information of utility representative;
* Utility name and type;
* Specific resource personnel/resources need;
* Specify required certification or specification;
* Date/time needed;
* Impact if delayed;
* Delivery point of resource;
* Logistical arrangements for any incoming personnel;
* Access routes into the affected area(s);
* Estimated duration of operations; and
* Risks and hazards.

**Stand Down Activities**

* Under direction of the OH WARN Leader to “stand down,” prepare a situation status report about the utilities you represent, including estimated outages, restoration and damages;
* Provide briefing to the OH WARN Leader;
* Remain available by phone to respond if activation staffing is increased; and
* Sign out.

**Shut Down Activities**

* Under direction of the OH WARN Leader to “shutdown,” return all non-expendable items and identify items that need to be replaced;
* Complete reports. Provide briefing on completed items and identify follow up items;
* Assist in returning all equipment to storage location;
* Sign out; and
* Be available to participate in After Action Report Reviews.

# Attachment J: OH WARN Request Summary Sheet

**Purpose:** OH WARN Response Team Members if activated use this form to track requests for mutual aid/assistance.

**Instructions:** After receiving a copy of Attachment C from the Requesting Utility**,** assign a number to each request in column 1. Put name of utility requesting aid in column 2. Summarize resource needs in column 3. Put name of Responding Utility in column 4. Put estimated time of arrival of responding resources in column 5 and the time they left in column 6. Put estimated cost of this deployment in last column.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date/Time | | | | | | |
| Request No. | Requesting Utility | Need Summary | Responding Utility | ETA | Estimated Deployment Time | Estimated Costs |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
| All Times – Local 24 Hour Clock | | | | | | |

# Attachment K: OH WARN Activity Log

**Purpose:** OH WARN Response Team members use this form this form (adapted from ICS 214) to track actions to request mutual aid/assistance. All Utility Members are encouraged to do the same.

**Instructions:** After reviewing the appropriate checklist for the task you are completing, complete boxes 1 – 3 with requested information. Put your response title in box 4. In box 5, note who you report to. In box 6, note what response time you are operating in. In box 7, note the personnel that are assigned to you, the position they fill and the utility from which they come (if different from yours). In box 8, track major activity you complete according to time of day using 24 hour clock. Put your name and title in box 9, once form is complete.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **OH WARN Coordination Activity Log** | | 1. Incident Name | 2. Date Prepared | 3. Time Prepared |
| 4. Unit Name/Designators | | 5. Unit Leader (Name and Position) | | 6. Operational Period |
| 7. Personnel Roster Assigned | | | | |
| Name | | Response Team Position | | Home Utility |
|  | |  | |  |
|  | |  | |  |
| 8. Activity Log | | | | |
| Time | Major Activity | | | |
|  |  | | | |
|  |  | | | |
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|  |  | | | |
|  |  | | | |
| 9. Prepared by (Name and Position) | | | | |
| All Times – Local 24 Hour Clock | | | | |

# Attachment L: OH WARN State Emergency Operations Center/ WARN Response Coordination

**Purpose:** OH WARN Response Team Members if activated, need to know where to report at the county, state region, or state operations center.

**Instructions:** Use the following information to locate housing and feeding locations during your re-location to the pre-designated site as part of the OH WARN Response Team if activated.

|  |
| --- |
| **Pre-designated site** |
| Name of site: |
| Closest Airport: |
| Address: |
| Phone Number: |
| Fax: |
| Driving directions: |
| Map: |
| **Local Hotels Addresses and Phone Number** |
| Name: |
| Phone Number: |
| Address: |
| Name: |
| Phone Number: |
| Address: |
| Name: |
| Phone Number: |
| Address: |
| Name: |
| Phone Number: |
| Address: |
| **Local Restaurants and Eateries:** |
| Name: |
| Address: |
| Name: |
| Address: |
| Name: |
| Address: |
| Name: |
| Address: |
| **Additional Information:** |
| **Miscellaneous ItEMS / OTHER Information** |

# Attachment M: General OHWARN Process Flow Diagram

**LEGEND**

Start of Process

Action Performed

Decision Step

On-page Reference

A B C D

E



Discovery

Initial Response Sustained Actions Termination & Follow-up

Remediation & Recovery



**GENERAL OH WARN PROCESS**

**A1**

**Discovery**

Incident occurs (or is imminent) where outside assistance is required

**B1**

**Utility Needing Assistance (Requesting Utility):**

Use the AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual to

**B4**

**Utility Needing**

**Assistance**

**(Requesting Utility):**

Call another WARN

member

Submit a request on the

WARN website

Submit a request on the

WARN member forum

Confirm verbal notification by completing Attachment B: OH WARN Emergency Notification Form (or equivalent)

**B10**

**Responding Utility:**

Complete Attachment H: OH WARN Responding Utility Checklist



**B9**

**Requesting and**

**Responding Utilities:**

Clarify/Agree Upon: Assistance to be

provided

Who provides food/

shelter for staff

**B11**

**Responding Utility:**

Assemble necessary resources

Prepare documentation as required by internal policies

**B12**

**Requesting Utility:**

Assign Mutual Aid Coordinator to address care, feeding, and other

support for incoming

**D3**

**Requesting Utility:**

Release personnel and equipment for return to Responding Utility

**D2**

**Responding Utility:**

Assemble all information on costs

Deliver/return documentation to

**D4**

**Requesting and**

**Responding Utilities:**

Conduct Post Incident

Analysis (PIA)

**D5**

**Responding Utility:**

Prepare and submit an invoice to the

**Incident Notes:**

determine resource

and personnel needs

**B2**

Is Utility a member of OH-WARN?

NO



**B3**

**Utility Needing Assistance (Requesting Utility):**

Follow normal Emergency Contracting Procedures

YES

Contact local Emergency Management Agency

If no WARN members NO

are able to respond, Utilities should follow their normal Emergency Contracting Procedures

**B5**

Is utility that received the request willing/able to respond?

YES



**B6**

**Responding Utility:**

Authorized Representative notifies requesting Utility

of:

Availability/Management approval to respond

Approximate time resources will arrive

Personnel and

equipment rates

Reimbursement process



**B8**

**Responding Utility:**

Complete Attachment D: OH WARN Cost Estimator Worksheet

Complete Part II of Attachment C:OH WARN Request and Authorization Form (or

equivalent) and return to requesting utility



**B7**

**Requesting Utility:**

Complete Part I of Attachment C:OH WARN Request and Authorization Form (or equivalent) and forward to requesting utility

mutual aid personnel

Identify a staging area and Staging Area Manager

**C1**

**Responding Utility:**

Deploy to requesting utility staging area

**C2**

**Requesting and**

**Responding Utilities:**

Utilize OH WARN checklists as needed (see list in OH WARN Operational Plan)

Complete mission as agreed following principles of ICS

Requesting Utility

Keep copies of documentation as required

**D1**

**Requesting and**

**Responding Utilities:**

Debrief staff

Inspect equipment and materials

**C3**

**Requesting Utility:**

Draft Demobilization Plan (Identify release and priority procedures)

Requesting Utility for cost reimbursement

**E1**

**Requesting Utility:**

Repair facility assets

**E2**

**Requesting Utility:**

Pay invoice from

Responding Utility

# Attachment N: OH WARN Operational Plan Project Team 2010

**Robin Halperin**

*Northeast Ohio Regional Sewer District*

*Ohio WARN, Chair*

**Randy Gilbert**

*Montgomery County* *Water Services*

*Ohio WARN, Vice Chair*

**Brian Bisson**

*Aqua Ohio, Inc.*

*Ohio WARN, NE District Coordinator*

**Rick Schantz**

*Village of Archbold*

*Ohio WARN, NW District Coordinator*

**Craig Charleston**

*City of Columbus*

*Ohio WARN, SE District Coordinator*

**Karen Hawkins**

*City of Fairborn*

*Ohio WARN, SW District Coordinator*

**Dave Bornino**

*Ohio Environmental Protection Agency*

*Ohio WARN, Advisor*

**Denny Tomcik**

*Ohio Emergency Management Agency*

*Ohio WARN, Advisor*

**Tom Fishbaugh**

*Ohio Rural Community Assistance Program*

*Ohio WARN, Advisor*

**Tim Ballard**

*Ohio Rural Water Association*

*Ohio WARN, Advisor*

**Acknowledgements**

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|  |  |
| --- | --- |
| **John Whitler**  *U.S. Environmental Protection Agency* | **Raymond Riordan**  *Computer Sciences Corporation* |
| **Bradley Armstrong**  *Computer Sciences Corporation* | **Candice Sherry**  *Ohio Emergency Management Agency* |
| **Alfred Lagos**  *Computer Sciences Corporation* | **Brad Schwartz**  *Ohio Emergency Management Agency* |

# Attachment O: AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual



WATER & WASTEWATER

MUTUAL AID & ASSISTANCE RESOURCE TYPING MANUAL

April 2008



The Authoritative Resource on Safe Water SM



The Authoritative Resource on Safe Water SM

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TABLE OF CONTENTS

**Preface** Page 4

**Section I Introduction to Resource Typing** Page 5

Introduction to Mutual Aid and Assistance

Defining Resource Typing

The Role of Resource Typing in the Effective Provision of Mutual

Aid and Assistance

National Incident Management System (NIMS) Resource Typing

Criteria and Framework

**Section II How to Use this Manual** Page 9

Using this Manual

Water Sector Resource Typing Framework and Definitions

Personnel

Vehicle, Equipment and Tools Materials and Expendable Supplies Limiting Factors and Assumptions

Information and Resources Requestors Should Provide

Responders Accommodations Information

Additional Information

Acronyms

Definitions

**Section III Specific Water Sector Resources** Page 17

**Water Processes** Page 18

Water Production Facilities Damage Assessment, Repair and

Start-up Team

Water Production Facilities Operations Personnel

Water Pump Facilities Damage Assessment and Repair Team

Water Lab Support Personnel

**Water Distribution** Page 22

Water Distribution System Flushing, Flow Testing, Sampling and

Field Analysis Team

Water Distribution System Damage Assessment and Repair Team

Water Valve Operations Team

Water Mains Leak Location Team

**Wastewater Processes** Page 26

Wastewater Treatment Facilities Damage Assessment, Repair and

Start-up Team

Wastewater Treatment Facilities Operations Personnel

Wastewater Lab Support Personnel

Wastewater Lift and Pump Stations Damage Assessment, Repair and Start-up Team

Wastewater Sampling and Field Analysis Team

**Wastewater Collection** Page 31

Sewer Mains Damage Assessment and Repair Team

Sewer Mains and Manholes Cleaning and SSO / CSO Clean-up

Team

**General and Supporting Resources** Page 33

Water / Wastewater Emergency and General Management Support

Personnel

Water / Wastewater Public Information Officer (PIO) Personnel Water and Sewer Main, Valve and Manhole Locating Team Water / Wastewater Health and Safety and Environmental

Compliance Personnel

Water / Wastewater Electrical Generator and Direct Drive Teams

Control Systems, SCADA and Radio Systems Repair and

Restoration Team

Vehicle and Equipment, Maintenance, Repair and Fueling Teams

Facility Access Restoration and Debris Clearing Team

**Appendix I Typed Equipment Resources**

**FEMA 508-7 Typed resources – Public Works Resources** (May 2005) Dump Truck-on Road

Backhoe Loader

Generator

Hydraulic Truck Cranes

Hydraulic Excavator

**Additional Equipment Definitions**

Sewer Jet / Vac Truck

Sewer Jet Truck

Sewer Power Rod Truck

Water Valve Operating Truck

**Appendix II EMAC REQ-A Form**

**Appendix III Mutual Aid and Assistance Cost Estimate Development Spreadsheet**

**Appendix IV Mutual Aid and Assistance Responders Accommodations Checklist**

**Preface and Acknowledgements**

This *Resource Typing Manual* was written to provide guidance to water and wastewater utilities when they request and provide mutual aid and assistance resources during and after an emergency. The resources described in this manual are those anticipated to be needed up to the first thirty days following an incident, emergency, disaster, or catastrophe, herein referred to jointly as “incidents”. While mutual aid and assistance between water and wastewater systems is valuable in all phases of an incident, it is most valuable during the initial response and recovery phase, before many resources from other levels of government and private contractors can be mobilized. For the purpose of this manual, the term “water sector” includes providers of potable water, sanitary sewer, storm sewer and reclaimed water services.

This *Resource Typing Manual* was developed and written based upon research of existing resource typing models in the water sector and elsewhere, as well as extensive involvement of water sector stakeholders.

**Project Advisory Committee**

Steve Dennis, Alameda County Water District

Vanessa Lieby, The Cadmus Group

Richard Talley, City of Fort Worth

Gary Williams, Florida Rural Water Association

**AWWA Staff**

Kevin M. Morley, Regulatory and Security Analyst

**Project Contractors**

URS – Jack Moyer and Duane Verner

The Horsley Witten Group – Tom Noble

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**Manual Overview**

This manual is not intended to be a comprehensive mutual aid and assistance manual. Instead, it serves as a complement to other mutual aid and assistance materials. Additional mutual aid and assistance information and materials can be found at the Water and Wastewater Agencies Response Network (WARN) website, [www.NationalWARN.org.](http://www.NationalWARN.org/) Concurrent with the development of this manual, many WARN programs are developing WARN Mutual Aid and Assistance Operational Plans, based upon a model developed by the USEPA, hereinafter referred to as the “Sample WARN Operational Plan”. The Sample WARN Operational Plan provides a broader scope of mutual aid and assistance information and material, supported by this manual. This resource typing manual is also not intended to serve as an inventory or database of mutual aid and assistance resources. In fact, it is envisioned that this manual will, to a

4

great extent, reduce the need for the maintenance of inventories of resources for mutual aid and assistance or help those WARN systems to choose to maintain inventories to structure those inventories.

Before using the resource sheets in Section III of this manual, it is very important that mutual aid and assistance requestors and responders read and understand the material in Section II. Ideally, water sector professionals should become familiar with the information in this manual before they need to use it as a mutual aid and assistance requestor or responder.

Changes to this document are expected due to lessons learned, changes in protocols, and/or modification to the WARN Agreement. Such future revisions of this manual will

be managed by AWWA and will be designated as “Revision #

cover date.

This manual is organized into the following sections:

• Section I - Introduction to Resource Typing

• Section II - How to Use this Manual

• Section III - Specific Water Sector Resources

• Appendices

”, with a revised

**Section I Introduction to Resource Typing**

**Introduction to Mutual Aid and Assistance**

Incidents of various forms, including Hurricane Katrina in 2005, demonstrate the vulnerability of water and wastewater systems to significant damage and service interruptions. Regardless of the incident, the impacts of all hazards upon water and wastewater systems have consistent underlying similarities, such as the loss of electrical power or flood-damaged facilities and infrastructure. These, in turn, often result in poor water quality, reduced or no water, and / or little to no wastewater treatment.

In the aftermath of incidents, water and wastewater systems have demonstrated their strong willingness and ability to help one another in both the response to and recovery from these incidents. As a rule, un-impacted water and wastewater systems have everything that is needed by their impacted counterparts. When a water or wastewater system is damaged, more response and recovery resources are available from other water and wastewater systems than from any other source. As a result, it is particularly important that water and wastewater systems are able to rapidly communicate their mutual aid and assistance needs in a shared, common terminology.

Despite the existence of available resources and the strong willingness of water and wastewater systems to assist their impacted counterparts, “Utilities Helping Utilities” mutual aid and assistance does not occur effortlessly and seamlessly. Many water and wastewater agencies and organizations, including AWWA, have worked together to improve intrastate and interstate mutual aid and assistance opportunities. This collaborative effort has produced many advancements in mutual aid and assistance networks between water and wastewater systems, particularly the recent inception of Water / Wastewater Agency Response Networks (WARNs) in many states. WARNs and other mutual aid and assistance enhancements have provided the organization and framework for the timely provision of mutual aid and assistance within the water sector. Mutual aid and assistance is also addressed in the Water Sector Specific Plan (SSP), which supports the National Infrastructure Protection Plan (NIPP).

In spite of the strong willingness of water and wastewater utilities to support one another following an incident, it is important that responding utilities are appropriately compensated for the mutual aid and assistance provided in order to ensure the long-term viability of mutual aid and assistance networks and therefore the resiliency of the water sector. Information on the reimbursement process can be found in state WARN agreements and Operational Plans.

**Defining Resource Typing**

Resource typing is the categorization and description of response resources that are commonly exchanged in disasters through mutual aid and assistance agreements. Resource typing definitions can give utilities the information they need to ensure that they request and receive the appropriate resources during an incident. The resource

typing protocol provided by the National Incident Management System or NIMS (and used in this manual) describes resources using the parameters of category, kind, components, metrics, and type. The NIMS uses the following definitions:

**Resource -** For purposes of typing, *resources* consist of personnel, teams, facilities, supplies, and major items of equipment available for assignment to or use during incidents. Such resources may be used in tactical support or supervisory capacities at an incident site or Emergency Operations Center (EOC). Their descriptions include category, kind, components, metrics, and type, further defined below.

**Category -** A *category* is the function for which a resource would be most useful. For example, the resources described in this manual are most useful for the Public Works and Engineering category established by the NIMS, under the subcategory of Water and Wastewater (established by the water sector).

**Kind -** *Kind* refers to broad classes that characterize like resources, such as teams, personnel, equipment, supplies, vehicles, and aircraft.

**Components -** Resources can comprise multiple *components*. For example, a Water Mains Damage Assessment and Repair Team is comprised of the personnel, vehicles and heavy equipment, equipment and materials necessary to perform the repairs indicated.

**Metrics -** *Metrics* are measurement standards. The metrics used will differ depending on the kind of resource being typed. The mission (or task) envisioned for the particular resource determines the specific metric selected. The metric must be useful in describing a resource’s capability to support the mission. As an example, the metric used in this manual for describing pump sizes is horsepower (HP).

**Type -** *Type* refers to the level of resource capability. Assigning the Type I label to a resource implies that it has a greater level of capability than a Type II of the same resource (e.g., due to its power, size, or capacity) and so on down to Type IV. Typing provides additional information to aid in the selection and best use of resources. In some cases, a resource may have less than or more than four types. The type assigned to a resource or a component is based on a minimum level of capability described by the identified metric(s) for that resource. For example, in this manual, a Type I Sewer Mains Damage Assessment and Repair Team is capable of repairing mains of 24” and larger in diameter, while Type II, III and IV teams are capable of smaller main repairs only.

**The Role of Resource Typing in the Effective Provision of Mutual Aid and**

**Assistance**

The WARN networks and other recent water sector efforts have improved opportunities for timely mutual aid and assistance between water and wastewater systems by providing standardized mutual aid and assistance agreements, mutual aid and assistance leadership frameworks, training for water and wastewater systems, on-line resource inventories, and legal frameworks for emergency aid and assistance. However, representatives of water

and wastewater systems impacted by incidents often find it difficult to clearly articulate their needs. Moreover, different water and wastewater systems often use different terminology for the same resources. As incidents become more severe and the distance between providing help and receiving help becomes greater, this challenge increases.

To optimize the opportunities for the sharing of mutual aid and assistance resources between water and wastewater systems, it is necessary for the water sector to develop standard or common resource terminology, definitions, protocols and resource types. This will reduce confusion when requesting mutual aid and assistance, and greatly enhance the chances of the correct resource arriving as quickly as possible. Standardized resource definitions and types will also substantially help with Federal Emergency Management Agency (FEMA) reimbursement of mutual assistance expenses, coordination of interstate mutual aid and assistance through state emergency management agencies and the Emergency Management Assistance Compact (EMAC), and an inventory of generally available aid and assistance resources for the water sector.

A number of efforts have been undertaken for the typing of water sector resources at the national level. Most notable is FEMA’s NIMS Integration Center (now known as the Incident Management Systems Integration Division under the National Integration Center or NIC) initiative to develop the *National Mutual Aid and Resource Initiative - Glossary of Terms and Definitions* (FEMA 507, July 2005) and the initial *Resource Definitions* (FEMA, September 2004) for 120 mutual aid and assistance resources. This initiative covers mutual aid and assistance resources across many sectors and provides little, if any, resource typing for water and wastewater systems. The attention that is provided to water and wastewater utilities is generally “buried” within the public works sector (*Typed Resource Definitions – Public Works Resources*, FEMA 508-7, May 2005). In addition, the existing resource types incorporated in the NIMS resource typing system vary widely in their specificity. Relevant current FEMA NIC public works resource definitions and definitions of some other water sector-specific equipment are included in Appendix I of this document.

Most resource typing initiatives to date have been either very equipment-focused, such as “backhoe, rubber-tired”, or very performance-focused, such as “team capable of repairing water mains…” Ideally, effective resource typing should achieve a balance between the two, with sufficient focus on equipment details, along with a performance-based focus. With a few exceptions, optimum resource types, including those developed during this project, are teams comprised of personnel, heavy equipment, smaller tools, materials and other necessary items to perform the intended mission.

**National Incident Management System (NIMS) Resource Typing Criteria and**

**Framework**

Currently, the NIC has developed and published 120 “Tier One” Resource Typing Definitions (FEMA, September 2004). In FY 2006, state, territorial, tribal and local jurisdictions were required to inventory and type their response assets to conform to the NIMS Resource Typing standards. When states addressed the 2006 NIMS compliance

requirements (i.e., to inventory the national 120 “Tier One” resource typing definitions), many states chose voluntarily to expand the effort to inventory and type state-specific response resources and assets. This additional level of typing supports intrastate (i.e., within a state) as well as regional mutual aid and assistance plans, agreements, and compacts involving adjacent states or neighboring interstate (i.e., between states) local jurisdictions. As a result, states have identified and typed response resources and assets that exceed the current national 120 “Tier One” resources typed.

The NIC therefore currently recognizes the need to add the capacity to recognize both “Tier One” and “Tier Two” resource typing definitions. “Tier One” will continue to be national in its scope and consist of the current 120 resource typing definitions. “Tier Two” will be those resources defined and inventoried by the states, tribal, and local jurisdictions that are not “Tier One” resources, but rather those that are specific and limited to intrastate mutual aid and assistance, and to limited specific regional mutual aid and assistance (i.e., resources which may cross state lines, but which would not be “Tier One” resources). Also under “Tier Two” would be first responder resources that would not be deployable nationally (e.g., types of ocean rescue equipment), or are so common that national definitions are not required as they can be ordered using common language (e.g., pick-up trucks, etc.).

The resources described in this manual, typed by the water sector, are considered to be “Tier Two” resources. However, because these resources are being typed for national deployment, the water sector may submit the resources in this manual to the NIC in the future for consideration as “Tier One” resources.

**Section II How to Use this Manual**

**Using this Manual**

A requestor should first determine the type(s) of mutual aid and assistance that may be needed by assessing the type and extent of damage to the system (some of the teams identified in this manual are for damage assessment). The Sample WARN Operational Plan provides forms and protocols for damage assessment. Using this manual, requestors should then identify the resource “kind” (e.g., Sewer Main Damage Assessment and Repair Team), in Section III of this manual that best meets their needs and then request a resource “type” (e.g., Type II) from within that kind. Potential responders should then refer to the requested resource kind and type in Section III of this manual to determine their ability to meet the requested need. Many of the resource sheets in this manual include blanks or check-boxes to prompt requestors for the provision of additional information regarding the specific needs of the requesting agency. While the resource sheets in this manual are not designed as actual request forms, copies may be used to support a request or the detailed information may be provided by other means.

Requestors should also review the other resources provided in this manual to identify support resources that may be needed to support the primary resources requested, such as a Facility Access Establishment and Debris Removal Team to support the Sewer Mains Damage Assessment and Repair Team or a Vehicle and Equipment Maintenance, Repair and Fueling Team to support vehicles and equipment provided.

In some cases, FEMA’s NIC has already classified certain resources, primarily equipment, commonly used by the water sector and others. To avoid confusion with these pre-existing classifications, this manual incorporates those resources in Appendix I of this manual. An example is generators. The FEMA NIC has typed generators from the 125 kilowatt (Type V) to 2,000 kilowatt (Type I) range. When a generator in those output ranges is needed, utilities should use the FEMA NIC resource definitions contained in Appendix I. However, the water sector frequently needs generators smaller than 125 kilowatts in power output, which are addressed on the generator resource sheet.

It is very important that both requestors and responders review this Section and refer to the “Limiting Factors and Assumptions”, “Acronyms”, and “Definitions” subsections before finalizing plans to provide mutual aid and assistance, as there are some key operational guidelines provided in those subsections. The appendices of this manual and the Sample WARN Operational Plan also provide some materials and forms that may be needed in the request or provision of mutual aid and assistance.

Generally, at some point in the process of requesting mutual aid and assistance, the requesting utility will need to complete some form of request document. For mutual aid and assistance between agencies in different states, this will generally require the use of the EMAC REQ-A form. Appendix II of this manual contains a sample REQ-A form for specific use in EMAC requests. EMAC requests may be submitted only by EMAC coordinators, although the inclusion of this form provides an example of the types of

information generally needed from aid and assistance requestors and in EMAC requests, in particular. The Sample WARN Operational Plan also includes a generic request form.

**Water Sector Resource Typing Framework and Definitions**

The water sector falls within the NIMS resource category Emergency Support Function (ESF)-3, Public Works and Engineering. For the purposes of this manual, water and wastewater resources are referred to as a subcategory, although this subcategory is not currently formally recognized by the NIC. Each water sector resource is identified as a team or as a personnel resource. Generally, resources that include any combination of multiple personnel and non-personnel resources are referred to as teams.

Many of the water sector resources in this manual are classified into four types, with Type I having the greatest capability and Type IV having the least capability. In most cases, Type IV resources, where listed, indicate partial team capabilities that would support other teams or could be combined to comprise full Type I, II or III teams. In some cases, resource Types I, II and III may be different in terms of unique capabilities, but any individual type is not necessarily more capable than the other types within that resource kind. Examination of some of the resources described later in this manual in Section III will provide example and clarity to the different types.

**Personnel**

Most utilities use a relatively similar management reporting structure in the assignment of work to a work team. Providing a common management structure improves communication, focuses resources effectively, and establishes responsibility for the work tasks. However, utilities refer to positions by many different titles. For the purpose of this manual, the major, typical utility expertise and team command levels are listed below:

1. Team Leader - a Team Leader is responsible for setting up the job in the field and tasking work assignments within the team. The Team Leader is part of the work team and is an active participant in performing work tasks. In addition, the Team Leader serves as the resident technical expert in the field and is ultimately responsible for team safety. It should be noted that many of the teams in the resource sheets in this manual list lead personnel with other titles, but they all act as Team Leaders.

2. Specialized Positions – Specialized positions are those specific, skilled positions associated with a team, such as truck drivers and heavy equipment operators.

3. Utility Workers – Utility Workers perform the manual labor on the team.

Responsibility rests with the responder to ensure that, in their best judgment, the personnel that they provide in response to a mutual aid and assistance response are capable of accomplishing the work described and requested. Teams may be assembled with personnel, equipment and other resources from various responding utilities. In these

cases, one utility must take the lead in ensuring that the various team requirements are met. In some cases, that utility may be the requestor.

The team size ranges indicated on the individual resource sheets in Section III should be considered as ideals, not absolute minimums, unless precluded by applicable regulations. It is the responsibility of the responder to ensure that the team provided has the capability to safely and effectively accomplish the work indicated. Many of the resources are also scalable and can be provided in any quantity as needed by the requesting agency. For instance, a Type I Water and Sewer Main, Valve and Manhole Locating and Sewer CCTV Team is comprised of two persons. Nonetheless, a utility could request and another utility could provide a locating team comprised of six locators, as three Type I teams.

**Vehicles, Equipment and Tools**

In order to perform the desired repair activities, the responding utility will need to provide the necessary vehicles, equipment, and tools, as indicated on the resource type sheets. Also needed and not individually specified are basic tools such as power and hand tools that are common for the type of work performed. Generally, these tools are kept on utility vehicles and include valve keys, pipe saws, portable water pumps, wrenches, steam drivers, shovels, hammers, fuel containers, extension cords, ropes, slings, buckets, flashlights, small electrical generators, air compressors and pneumatic tools. Because restoration activities are often performed in areas where availability of tools is impeded, the responding utility must provide their own tools in mutual aid and assistance responses. In some instances, the resource typing equipment needs may be expanded to include mobile field warehousing of specialized tools. Responding teams should bring an appropriate power source to operate their tools – electrical, hydraulic or pneumatic.

Each responding team should possess communications equipment capable of supporting team communications in the field. Cellular telephones should not be considered as reliable communications in mutual aid and assistance responses. The requesting utility should provide each responding team with communications equipment (e.g., 2-way radios) to allow at least one member of the responding team to communicate with the requesting utility.

Each responding team should possess digital photographic capabilities. Photo transmittal capabilities are desirable and Global Positioning System (GPS) equipment is also desirable.

**Materials and Expendable Supplies**

Expendable supplies consist of those small, generally single-use items that are commonly used in the performance of construction and maintenance type work. Examples include saw blades, rags, nuts, bolts, common fittings, repair clamps, pipe solvent, lubricants, hydraulic oil and fuel, etc. It is expected that responding agencies will stock work vehicles with the expendable items normally used during the performance of the work.

Where water quality testing or diagnostic or forensic tests are undertaken, it is incumbent on the Team Leader to identify, obtain and bring any necessary testing equipment, reagents, standards and expendable supplies normally used in the field to perform sampling and analysis.

**Limiting Factors and Assumptions**

The following limiting factors and assumptions are listed to provide further guidance to mutual aid and assistance requestors and responders regarding the use of the resource typing provided in this manual.

1. Each responding team shall be responsible for complying with all applicable health and safety regulations associated with their work including, but not limited to, OSHA / DOT traffic safety, OSHA trench safety, Lock-Out Tag-Out, confined spaces, and fall protection; DOT Commercial Driver’s License (CDL) program; and any other applicable federal, state, and local safety requirements. An individual on each team must be familiar with the regulations applicable to the nature of the team’s work. Where more stringent state or local programs exist, it is incumbent on the requesting utility to apprise responders of those regulations and to enforce the more stringent requirements.

2. The resource typing included in this manual is not intended to provide individual capability credentialing unless otherwise specified, such as in the case of a Commercial Drivers License (CDL), which is an existing national credentialing program. All personnel specified in this manual must posses the appropriate CDL licenses for the vehicles they are driving or operating and other necessary skills for the mutual aid and assistance task they are expected to fulfill.

3. For all team and personnel resources, responders are responsible for all applicable Personal Protective Equipment (PPE), including, but not limited to, eye protection, hearing protection, hard hats, gloves, protective footwear, and general work site safety equipment such as trench shoring equipment, slings, portable tripods, ladders, “mud” pumps, basic traffic control devices and explosive / toxic gas / oxygen monitors. All responder teams must carry appropriate emergency first aid kits and fire extinguishers. The management program and the safety procedures necessary for the accomplishment of the specified work shall comply with federal DOT and OSHA programs or other applicable regulations.

4. Water and wastewater main repair teams should be assisted by requesting utilities in locating valves, and the requesting utility shall be responsible for approving water system shut-down by other means. All water and wastewater systems are encouraged to secure backup electronic and / or paper maps and records to ensure access to that information during a response.

5. For all heavy equipment that cannot be driven on roadways, the responding utility must provide a trailer capable of transporting the equipment and a vehicle capable of pulling that trailer. Such trailers and tow vehicles are not specified on the resource sheets.

6. Repair teams are responsible for leaving roadways in generally safe and drivable conditions after underground utilities are repaired. Permanent street pavement patching is the responsibility of the requestor or other agencies. Responding teams are also not responsible for aesthetic restoration (e.g., landscaping) of work sites. However, responding teams are responsible for a leaving a work site in safe conditions (e.g., holes filled in or appropriately barricaded).

7. Unless otherwise indicated by the requestor, responders should assume the need to be fully self-sufficient in providing for their personal needs and their equipment. The Mutual Aid Responders Accommodations Checklist in Appendix IV of this manual, as well as a similar checklist in the Sample WARN Operational Plan, list much of the information needed in determining the degree of self sufficiency that must be provided.

**Information and Resources Requestors Should Provide**

In addition to indicating the kinds, types and quantities of resources needed, requestors should provide as much detail as possible regarding their specific needs. Many of the resource sheets in Section III of this manual indicate specific, additional information that may be required in order to achieve a suitable response. Requestors should also provide a local liaison to guide responders whenever possible. This is critical to tasks such as valve operations.

In most instances of the provision of mutual aid and assistance, it is at some point necessary for the responder and / or requestor to develop an estimate of the cost of the aid and assistance to be provided. Cost estimates may be needed for the approval of the responding utility, may be desired by the requesting utility, will be required as part of an interstate EMAC request approval, and will ultimately be needed as part of the FEMA reimbursement process. Appendix III of this manual provides a spreadsheet as a model for developing such estimates. A form for transmitting the cost information and other key information is provided in the Sample WARN Operational Plan.

**Responders Accommodations Information**

In addition to providing detailed information on the type of aid needed, aid requestors should provide as much information as possible on the accommodations that responders can expect and what level of self-sufficiency for which they should be prepared. Using the *Mutual Aid Responders’ Accommodations Checklist* provided in Appendix IV of this manual, requestors can compile this information one time and then use the checklist to provide it to all potential responders. Potential responders can use the checklist to determine their ability to meet the accommodations needs and ensure that adequate support resources are provided.

**Additional Information**

Additional information on water sector mutual aid and assistance may be found at the following EPA, WARN and Florida WARN websites:

[www.epa.gov/safewater/watersecurity](http://www.epa.gov/safewater/watersecurity) [www.NationalWARN.org](http://www.NationalWARN.org/) [www.FLAWARN.org](http://www.FLAWARN.org/)

**Acronyms**

AWWA – American Waterworks Association

BOD – Biochemical oxygen demand

CAA – Clean Air Act

CCTV – Closed-circuit television CDL – Commercial Driver’s License CFM – Cubic feet per minute

CFR – Code of Federal Regulations CSO – Combined sewer overflow CWA – Clean Water Act

DOT – (United States) Department of Transportation

EOC – Emergency Operations Center

FEMA – Federal Emergency Management Agency

GAC – Granular activated carbon GPS – Global positioning system HAZMAT – Hazardous materials team HP - Horsepower

KW - Kilowatts

MGD – Million gallons per day

MIOX – Mixed oxidants

OSHA – Occupational Safety and Health Administration

PAC – Powdered activated carbon

PIO – Public Information Officer

PLC – Programmable logic controller

PPE – Personal protective equipment

RCRA – Resource Conservation and Recovery Act

RO – Reverse osmosis

RPM – Revolutions per minute

SCADA – Supervisory control and data acquisition

SDWA – Safe Drinking Water Act SSO – Sanitary sewer overflow SUV – Sport utility vehicle

UV – Ultraviolet (disinfection)

WARN – Water / Wastewater Agency Response Network WITAF – Water Industry Technical Action Fund **Definitions**

**Emergency Management Assistance Compact (EMAC)** - A congressionally ratified organization that provides form and structure to interstate mutual aid. Through EMAC, a disaster impacted state can request and receive assistance from other member states quickly and efficiently.

**Emergency Support Function (ESF)** - Details the missions, policies, structures, and responsibilities of Federal agencies for coordinating resource and programmatic support to States, tribes, and other Federal agencies or other jurisdictions and entities during Incidents of National Significance.

**Geophone** - A device which converts ground movement, or displacement, into electricity that may then be recorded at a recording station.

**Hazardous Waste Operations and Emergency Response Standard (HAZWOPER)** - A regulation of US OSHA that regulates the safety and health of the employees of hazardous waste facilities and in any emergency response activities involving hazardous substances.

**Incident Command System (ICS)** - A standardized, on-scene, all-hazard incident management protocol originally designed for fire fighting agencies and later federalized. The goal of ICS is to provide a common framework within which people can work together effectively in a crisis situation. ICS is designed to give standard response and operation procedures for emergency incidents to reduce the potential for miscommunication between multiple agencies that do not usually work together.

**National Incident Management System (NIMS)** - A system used to coordinate emergency preparedness and incident management among various federal, state, and local agencies.

**National Infrastructure Protection Plan (NIPP)** - Called for by Homeland Security Presidential Directive 7, this plan aims to unify Critical Infrastructure and Key Resource protection efforts across the country.

**National Integration Center (NIC)** - This center oversees all aspects of NIMS including the development of compliance criteria and implementation activities at federal, state and local levels. It also provides guidance and support to jurisdictions and incident management and responder organizations as they adopt the system.

**Pneumatic tools** - Also known as “air tools”, these tools are driven by gas, usually compressed air supplied by a gas compressor, or compressed carbon dioxide (CO2) stored in small cylinders.

**Requestor** – The utility in need of and requesting / receiving mutual aid and assistance resources.

**Responder** – The utility providing mutual aid and assistance resources.

**Supervisory Control And Data Acquisition (SCADA)** - Refers to a large-scale, distributed measurement and control system used to perform data collection and control at the supervisory level. These systems typically handle many daily operational functions at water and wastewater utilities.

**Water-Sector Specific Plan (SSP)** - A strategic “roadmap” for future water-specific security efforts developed by the Department of Homeland Security, the USEPA, the Water Sector Coordinating Council, and the Water Sector Government Coordinating Council.

**Section III Specific Water Sector Resources**

18

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER PRODUCTION FACILITIES DAMAGE ASSESSMENT, REPAIR AND START-UP TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of process repair capability | Pre-chem, post-chem, gaseous chlorination, chloramination, ozonation, MIOX, GAC, PAC, conventional filtration, membrane filtration, RO and UV | Pre-chem, post-chem, gaseous chlorination, chloramination, ozonation, GAC, PAC and conventional filtration, membrane filtration and RO | Pre-chem, post-chem, liquid chlorination, chloramination, MIOX, GAC, PAC and conventional filtration | Assessment only or components of Type I –  III Teams |
| Ideal Team  Size | Total persons | 5+ | 4 - 5 | 4 - 5 | 1 - 3 |
| Team  Composition | Team member capabilities for assessment and repairs indicated | 1+ Qualified mechanic  1+ Qualified electrician  1+ Plant operator  2+ Repair technicians  (mechanic or electrician serves as team leader) | 1+ Qualified mechanic  1+ Qualified electrician  1+ Plant operator  1+ Repair technicians (mechanic or electrician serves as team leader) | 1+ Qualified mechanic  1+ Qualified electrician  1+ Plant operators  1+ Repair technicians (mechanic or electrician serves as team leader) | Any portion of other types that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 2+ Heavy-duty pick-up trucks, one with equipment boom | 2+ Heavy-duty pick-up trucks, one with equipment boom | 2+ Heavy-duty pick-up trucks, one with equipment boom | Any portion of other types that can be provided |
| Other  Equipment | Other specific equipment | Compressor, welder, small electrical generator, infrared camera, laser alignment tool, vibration analyzer and other necessary hand tools and diagnostic equipment | Same | Same | Any portion of other types that can be provided |
| Materials | As needed for repairs indicated | Expendable supplies needed | Expendable supplies needed | Expendable supplies needed | NA |

This team is responsible for the assessment and repair of all types of water production facilities, regardless of size, with various settling systems,

including intake facilities, raw water conveyance facilities, treatment plants and pump stations, excluding structural and similar scale repairs. Pump repairs are addressed as a separate team. Requestor to supply lead operator familiar with the treatment process and plant shut down and start up, as well as plant schematics. Requestor should specify treatment processes used and any materials that should be provided by the responders. Types of facilities / processes in need of assessment and repair: Materials that should be provided by responders: \_-\_

Specific control systems used: Electronic Pneumatic Hydraulic

Facility capacity (MGD): \_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER PRODUCTION FACILITIES OPERATIONS PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of process operations capability | Pre-chem, post-chem, gaseous chlorination, chloramination, ozonation, MIOX, GAC, PAC, conventional filtration, membrane filtration, RO and UV | Pre-chem, post-chem, gaseous chlorination, chloramination, ozonation, GAC, PAC and conventional filtration, membrane filtration and RO | Pre-chem, post-chem, chlorination, chloramination, MIOX, GAC, PAC and conventional filtration | Components of  Type I – III Teams |
| Ideal Team Size | Total persons | 3 | 3 | 2 | 1-2 |
| Team  Composition | Team member capabilities for operation of processes indicated | 1 Senior operator  2 Operators | 1 Senior operator  2 Operators | 1 Senior operator  1 Operator | Any portion of other types that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | Any portion of other types that can be provided |
| Other Equipment | Other specific equipment | Diagnostic lab equipment | Diagnostic lab equipment | Diagnostic lab equipment | Any portion of other types that can be provided |
| Materials | As needed | Expendable supplies needed | Expendable supplies needed | Expendable supplies needed | Any portion of other types that can be provided |

These personnel are responsible for the operation of all types of water production facilities, regardless of size, with various settling systems,

including wells, intake structures (excluding those that require boats), raw water conveyance facilities, treatment plants and pump stations. Requestor should specify treatment processes used and in which expertise is needed, as well as any materials that should be provided by the responders. Operators can be provided in any agreed-upon quantity, with a minimum of two.

Specific types of facilities and processes in need of operation:

Specific equipment or materials that should be provided by responders:

Specific control systems used: Electronic Pneumatic Hydraulic

Facility capacity (MGD):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER PUMP FACILITIES DAMAGE ASSESSMENT AND REPAIR TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of repair and  start-up capability | Raw, finished and booster pump stations with largest motor over  400 HP | Raw, finished and booster pump stations with largest motor 26 -  400 HP | Raw, finished and booster pump stations with largest motor less than 26  HP | Components of Type  I – III Teams |
| Ideal Team Size | Total persons | 4+ | 2 - 4 | 2 - 4 | 1-2 |
| Team  Composition | Team member capabilities for assessments and repairs indicated | 1+ Qualified mechanic  1+ Qualified electrician  2+ Repair technicians (mechanic or electrician serves as team leader) | 1+ Qualified mechanic  1+ Qualified electrician  0 – 2 Repair technicians (mechanic or electrician serves as team leader) | 1+ Qualified mechanic  1+ Qualified electrician  0 - 2 Repair technicians (mechanic or electrician serves as team leader) | Any portion of Type II  that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 2 Heavy-duty pick-up trucks, 1 with equipment boom | 2 Heavy-duty pick-up trucks, 1 with equipment boom | 1 - 2 Heavy-duty  pick-up trucks, 1 with equipment boom | Any portion of Type II  that can be provided |
| Other Equipment | Other specific equipment | Necessary tools and equipment | Necessary tools and equipment | Necessary tools and equipment | Any portion of Type II  that can be provided |
| Materials | As needed for repairs indicated | Expendable Supplies | Expendable Supplies | Expendable Supplies | NA |

This team is responsible for the assessment and repair of all types of water pump facilities, regardless of size, including intake facilities (excluding

those that require boats), raw water conveyance facilities, treatment plants and pump stations, excluding structural and similar scale repairs. Requestor should specify types of pump facilities in need of assessment and repair in which expertise is needed, as well as any materials that should be provided by the responder. Major repair materials provided by requestor or others.

Specific types of pump facilities in need of assessment and repair: Specific materials that should be provided by responders:

Specific control systems used: Electronic Pneumatic Hydraulic Maximum pump voltages: 4160 480

Facility capacity (MGD):

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER LAB SUPPORT PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Personnel** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Water laboratory analysis | Chemist capable of running wet chemical, organic and inorganic analyses | Biologist capable of running cryptosporidium and giardia analyses | Lab technician capable of running BOD and basic microbiological analyses | NA |
| Personnel | Total persons | 1 | 1 | 1 | NA |
| Team  Composition | Team member capabilities for work indicated | 1 Water lab chemist | 1 Water lab biologist | 1 Water lab technician | NA |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | NA |
| Other Equipment | Other specific equipment | As needed | As needed | As needed | NA |
| Materials | As needed | As needed | As needed | As needed | NA |

Comments and Definitions: Requestor should check condition of laboratory and make an equipment assessment before requesting water lab support personnel.

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER DISTRIBUTION SYSTEM FLUSHING, FLOW TESTING, SAMPLING AND FIELD ANALYSIS TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of water distribution flushing or sampling and field analysis | Distribution system flow testing and flushing from hydrants and blow-offs | Sampling and field analysis where possible of bac-t, pH, turbidity, and chlorine residual | Sample transportation | Support only |
| Ideal Team Size | Total persons | 2 | 2 | 1 | 1-2 |
| Team  Composition | Team member capabilities for work indicated | 1 Lead flushing technician  1 Flushing technician | 1 Water sampling technician  1 Water sampling assistant | 1 Water sampling assistant | Any portion of other type that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light-duty pick-up truck, 2 preferred | 1 4X4 SUV or pick-up truck with enclosed bed | 1 4X4 SUV or pick-up truck with enclosed bed | Any portion of other type that can be provided |
| Other Equipment | Other specific equipment | Diffuser, dechlorinator, flow- testing gauges and other necessary tools and small equipment | Necessary transport coolers and analytical testing equipment, sampling pump if needed | Necessary transport coolers | Any portion of other type that can be provided |
| Materials | As needed | As needed | Appropriate sampling containers, reagents and other supplies for two weeks of  sampling work | As needed | NA |

Comments and Definitions: Flushing personnel can be provided in any agreed-upon quantity, with a minimum of two. Requestor should provide a

representative familiar with the hydraulics of the affected distribution system to accompany the team. Ice to be provided by requestor or others, as needed. HAZMAT should be used where samples may be hazardous.

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| **RESOURCE: WATER DISTRIBUTION SYSTEM DAMAGE ASSESSMENT AND REPAIR TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Diameter (in.) of mains repaired | 24”+ | 10”-22” | 2”- 8”, including services and small meters | Portion of Type I – III Teams |
| Ideal Team Size | Total persons | 6 - 8 | 5 - 7 | 4 - 5 | 1 - 3 |
| Team  Composition | Team member capabilities for assessments and repairs indicated | 1 Team leader  1 Backhoe-loader operator  1 - 2 Tandem dump truck drivers  1 Lead repair technician  1 - 2 Utility workers  1 Welder if steel mains indicated | 1 Team leader  1 Backhoe operator  1 - 2 Dump truck drivers  1 Lead repair technician  1 - 2 Utility workers  1 Welder if steel mains | 1 Team leader  1 Backhoe operator  1 Dump truck driver  1 - 2 Utility workers  1 Welder (if steel) | Any portion of Type III that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Medium track excavator  1 Backhoe-loader  1 - 2 Tandem Dump trucks  1 Team / equipment tk. w/ boom | 1 Medium track excavator  1 Backhoe-loader  1 - 2 Tandem Dump trucks  1 Team / equip. tk. w/ boom | 1 Backhoe-loader  1 - 2 Tandem Dump trucks  1 Team / equip. tk. | Any portion of Type III that can be provided |
| Other Equipment | Other specific equipment | Air compressor, mud pump, welder (if steel) and necessary pneumatic, small power tools and hand tools for repairs indicated | Air compressor, mud pump, welder (if steel) and necessary pneumatic, small power tools and hand tools for repairs indicated | Air cmprssr., mud pump, welder (if steel) and needed pneumatic, small  power tools and hand tools for repairs | Any portion of Type III that can be provided |
| Materials | As needed for repairs indicated | Repair couplings, sleeves and associated materials and expendable supplies for 60 assorted main repairs | Repair couplings, sleeves  and associated materials and expendable supplies for 60  assorted main repairs | Repair couplings, sleeves and assctd. mtrls. & expendable supplies for 60 assorted main repairs | NA |

This team is responsible for the assessment and repair of all types of water distribution facilities including mains, valves, hydrants and storage

facilities (assessment and light repairs only), including excavation through backfill. Pump repairs are addressed as a separate team. Requestor should specify facilities in which repair expertise is needed, specific water main materials and size ranges in need of repair, and typical depth of

facilities and soil conditions, as well as any materials that should be provided by the responders. Requestor to provide plans showing water main

locations and coordinate notification of “call-before-you dig” service used in region. Traffic control considerations to be coordinated by requestor and responding utility. Pipe provided by requestor or others.

Specific types of system components in need of assessment and repair: Main sizes and materials:

Typical depth:

Soil conditions: Hydrant makes / models:

Specific materials that should be provided by responders:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER VALVE OPERATIONS TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of valve operations capability | Valve box cleaning and valve operation | Valve operation | NA | Portion of Type I – III Teams |
| Ideal Team Size | Total persons | 2 | 2 | NA | 1-2 |
| Team  Composition | Team member capabilities for work indicated | 1 Team Leader  1 Utility worker with valve experience | 1 Lead valve technician  1 Valve technician | NA | Any portion of other types that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Truck with truck-mounted or trailer-mounted vacuum unit and power valve operator | 1 Truck with truck- mounted or trailer- mounted power valve operator | NA | Any portion of other types that can be provided |
| Other Equipment | Other specific equipment | Necessary tools and equipment | Necessary tools and equipment | NA | Any portion of other types that can be provided |
| Materials | As needed | Expendable Supplies | Expendable Supplies | NA | NA |

Comments and Definitions: Requestor should provide system maps and indicate condition of valve boxes in need of location and operation. If

possible, GPS coordinates should also be made available to the responder. The requestor should provide for debris removal over valves to expedite work. Requestor should also provide a licensed operator to turn valves if required by the requestor’s state.

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER MAINS LEAK LOCATION TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Level of leak locating technology | Electronic noise correlation leak locating | Geophones leak locating | Basic audio leak locating | Components of Type  I – III Teams |
| Ideal Team Size | Total persons | 2 | 2 | 1-2 | 1-2 |
| Team  Composition | Team member capabilities for work indicated | 1 Lead leak locator  1 Leak location assistant | 1 Lead leak locator  1 Leak location assistant | 1 Lead leak locator  0 - 1 Leak location assistant | Any portion of Type I  that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light duty truck with noise correlation leak locating system | 1 Light duty truck | 1 Light duty truck | Any portion of Type I  that can be provided |
| Other Equipment | Other specific equipment | Necessary hand tools, lighting and safety equipment | Necessary hand tools, lighting and safety equipment | Necessary hand tools, lighting and safety equipment | Any portion of Type I  that can be provided |
| Materials | As needed | As needed | As needed | As needed | As needed |

Comments and Definitions: Teams may need to work in dark conditions.

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WASTEWATER TREATMENT FACILITIES DAMAGE ASSESSMENT, REPAIR AND START-UP TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of repair and  start-up capability | Physical / chemical and biological treatment, activated sludge, nutrient removal, tertiary filtration, gaseous chlorination, membranes, UV, dewatering  and biosolids handling | Physical / chemical and biological treatment, activated sludge, tertiary filtration, gaseous chlorination, dewatering and biosolids handling | Physical / chemical and biological treatment, liquid chlorination, and dewatering | Septic systems, trickling filtration, sand filtration, biological lagoons and constructed wetlands |
| Ideal Team Size | Total persons | 6+ | 4+ | 4+ | 1-4 |
| Team  Composition | Team member capabilities for assessments and repairs of processes indicated | 1 Qualified mechanic  1 Qualified electrician  1+ Operator  1 Instrumentation tech.  2 Repair technicians  (mechanic or electrician serves as team leader) | 1 Qualified mechanic  1 Qualified electrician  1+ Operator  1 - 2 Repair technicians (mechanic or electrician serves as team leader) | 1 Qualified mechanic  1 Qualified electrician  1+ Operator  1 - 2 Repair technicians (mechanic or electrician serves as team leader) | 1+ Qualified mechanic  or electrician  0 - 2 Repair technicians |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 or 2 Heavy-duty pick-up trucks or equivalent, one with equipment boom | 1 or 2 Heavy-duty pick-up trucks or equivalent, one with equipment boom | 1 or 2 Heavy-duty pick-up trucks or equivalent, one with equipment boom | 1 or 2 Heavy-duty pick-up trucks |
| Other Equipment | Other specific equipment | Necessary tools and safety equipment (e.g., air monitors) | Necessary tools and safety equipment (e.g., air monitors) | Necessary tools and safety equipment (e.g., air monitors) | Necessary tools and safety equipment (e.g., air monitors) |
| Materials | As needed for repairs indicated | Expendable supplies needed | Expendable supplies needed | Expendable supplies needed | Expendable supplies needed |

Comments and Definitions: This team is responsible for the assessment and repair of all types of wastewater treatment facilities, regardless of

size, with various treatment systems, conveyance facilities, treatment plants and pump stations, excluding structural and similar scale repairs. Pump and lift station repairs are addressed as a separate team. Requestor to supply lead operator familiar with the treatment process and plant

shut down, as well as start up and schematics of pipes and valves. Requestor should specify treatment processes used, as well as any materials

that should be provided by the responders.

Specific types of facilities and processes in need of assessment and repair: Specific materials that should be provided by responders:

Specific control systems used: Electronic Pneumatic Hydraulic

Facility capacity (MGD):

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WASTEWATER TREATMENT FACILITIES OPERATIONS PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Personnel** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of operations capability | Physical / chemical and biological treatment, activated sludge, nutrient removal, tertiary filtration, gaseous chlorination, membranes, UV, dewatering  and biosolids handling | Physical / chemical and biological treatment, activated sludge, tertiary filtration, gaseous chlorination, dewatering and biosolids handling | Physical / chemical and biological treatment, liquid chlorination, and dewatering | Septic systems, trickling filtration, sand filtration, biological lagoons and constructed wetlands |
| Personnel | Total persons | 3 | 3 | 3 | 1-2 |
| Team  Composition | Team member capabilities for operation of processes indicated | 1 Lead operator  2 Operators | 1 Lead operator  2 Operators | 1 Lead operator  2 Operators | 1 Lead operator  0 – 1 Operator |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred |
| Other Equipment | Other specific equipment | Monitoring Equipment | Monitoring Equipment | Monitoring  Equipment | Monitoring  Equipment |
| Materials | As needed | Expendable supplies | Expendable supplies | Expendable supplies | Expendable supplies |

These personnel are responsible for the operation of all types of wastewater treatment facilities, regardless of size, with various systems,

conveyance facilities, treatment plants and pump stations. Pump and lift station repairs are addressed as a separate team. Requestor should specify treatment processes used and in which expertise is needed, as well as any materials that should be provided by the responders. Equipment for monitoring and testing of the process should be provided by the responder unless confirmed that requestor can supply. Schematics of piping and valving shall be provided by the requestor. Operators can be provided in any agreed-upon quantity, with a minimum of two.

Specific types of facilities and processes in need of operation: Specific equipment or materials that should be provided by responders:

Specific control systems used: Electronic Pneumatic Hydraulic

Facility capacity (MGD):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WASTEWATER LAB SUPPORT PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Personnel** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Wastewater laboratory analysis | Chemist capable of running wet chemistry and nutrient analyses | Lab technician capable of running BOD, solids, fecal coliform, total coliform and E-coli analyses | NA | NA |
| Personnel | Total persons | 1 | 1 | NA | NA |
| Team  Composition | Team member capabilities for work indicated | 1 Wastewater lab chemist | 1 Wastewater lab technician | NA | NA |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | Light-duty vehicle preferred | Light-duty vehicle preferred | NA | NA |
| Other Equipment | Other specific equipment | NA | NA | NA | NA |
| Materials | As needed | NA | NA | NA | NA |

Comments and Definitions: : Requestor should check condition of laboratory and make an equipment assessment before requesting wastewater

lab support personnel.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WASTEWATER LIFT AND PUMP STATIONS DAMAGE ASSESSMENT, REPAIR AND START-UP TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of repair and  start-up capability | Screw, submersible, wetwell / drywell and vertical-turbine solids-handling pumps greater than 400 HP | Screw, submersible, wetwell / drywell, vertical-turbine solids- handling pumps and suction-lift pumps 26  – 400 HP | Submersible, suction- lift, grinder, LPP, vacuum and STEP pumps, 25 HP or smaller | Components of Type  I – III Teams |
| Ideal Team Size | Total persons | 4 | 4 | 2 | 1-2 |
| Team  Composition | Team member capabilities for assessments and repairs indicated | 1 Qualified mechanic  1 Qualified electrician  2 Repair technicians  (mechanic or electrician serves as team leader) | 1 Qualified mechanic  1 Qualified electrician  2 Repair technicians (mechanic or electrician serves as team leader) | 1 Qualified mechanic  1 Qualified electrician  2 Repair technicians (mechanic or electrician serves as team leader) | Any portion of other types that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 or 2 Heavy-duty 4X4 pick-up trucks or equivalent, one with equipment boom  1 30-ton+ crane preferred | 1 or 2 Heavy-duty 4X4 pick-up trucks or equivalent, one with equipment boom | 1 or 2 Heavy-duty  4X4 pick-up trucks or equivalent, one with equipment boom | Any portion of other types that can be provided |
| Other Equipment | Other specific equipment | Necessary tools and equipment | Necessary tools and equipment | Necessary tools and equipment | Any portion of other types that can be provided |
| Materials | As needed for repairs indicated | Necessary materials as indicated | Necessary materials as indicated | Necessary materials as indicated | NA |

Comments and Definitions: This team is responsible for the assessment and repair of all types of wastewater lift station and pump facilities,

regardless of size, including conveyance facilities, treatment plants and pump stations, excluding structural and similar scale repairs. Requestor should specify types of pump facilities in need of assessment and repair in which expertise is needed, as well as any materials that should be provided by the responder. Major materials provided by requestor or others.

Specific types of pump facilities in need of assessment and repair:

Specific materials that should be provided by responders:

Specific control systems used: Electronic Pneumatic Hydraulic Maximum pump voltages: 4160 480

Facility capacity (MGD):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WASTEWATER SAMPLING AND FIELD ANALYSIS TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Wastewater collection and stream sampling and field analysis | Capability of samples for BOD, solids, fecal coliform, total coliform and E-coli analyses, and field analyses where possible | NA | NA | Support only |
| Ideal Team Size | Total persons | 2 | NA | NA | 1-2 |
| Team  Composition | Team member capabilities for work indicated | 1 Sampling technician  1 Sampling assistant | NA | NA | Any portion of Type I  that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Heavy-duty 4X4 SUV or pick- up truck with enclosed bed | NA |  | Any portion of Type I  that can be provided |
| Other Equipment | Other specific equipment | Necessary tools and field lab testing equipment | NA | NA | Any portion of Type I  that can be provided |
| Materials | As needed | Bottles and other materials for two weeks of sampling work | NA | NA | NA |

Comments and Definitions: Ice to be provided by requestor or others, as needed. HAZMAT should be used where samples may be hazardous.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: SEWER MAINS DAMAGE ASSESSMENT AND REPAIR TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Diameter (in.) of mains repaired | Greater than 24” | 14” – 24” | Up to 12” | Components of Type I – III Teams |
| Ideal Team Size | Total persons | 8 | 7 - 8 | 5 - 7 | 1-5 |
| Team  Composition | Team member capabilities for assessments and repairs indicated | 1 Team leader  1 Excavator operator  1 Backhoe-loader operator  2 Tandem dump truck drivers  1 Lead repair technician  2 Repair technicians | 1 Team leader  1 Excavator operator  1 Backhoe-loader operator  1 - 2 Tandem dump truck drivers  1 Lead repair technician  2 Repair technicians | 1 Team leader  1 Backhoe-loader operator  1 - 2 Tandem dump truck drivers  1 Lead repair technician  1 - 2 Repair technicians | Any portion of Type III that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Large track excavator  1 Backhoe-loader  2 Tandem dump trucks  1 Team / equipment tk.  1 Supervisor’s light truck | 1 Large track excavator  1 Backhoe-loader  2 Tandem dump trucks  1 Team / equipment tk.  1 Supervisor’s light truck | 1 Backhoe-loader or medium track excavator  2 Tandem Dump trucks  1 Team / equipment tk.  1 Supervisor’s light truck | Any portion of Type III that can be provided |
| Other Equipment | Other specific equipment | Necessary pneumatic and hand tools for repairs indicated | Necessary pneumatic  and hand tools for repairs indicated | Necessary pneumatic  and hand tools for repairs indicated | Any portion of Type III that can be provided |
| Materials | As needed for repairs indicated | Repair couplings, sleeves  and associated materials and expendable supplies for specified number of assorted sewer main repairs | Repair couplings, sleeves and assctd. mtrls. and expendable supplies for specified nbr. of assrtd. sewer main repairs | Repair couplings, sleeves and assctd. mtrls. and expendable supplies for specified nbr. of assrtd. sewer main repairs | NA |

This team is responsible for the assessment and repair of all types of wastewater collection, stormwater collection, and reclaim water distribution

facilities, including gravity mains, force mains, aerial mains, and manholes, including excavation through backfill. Pump repairs are addressed as a separate team. Requestor should specify facilities in which repair expertise is needed, specific main materials and size ranges in need of repair, and typical depth of facilities and soil conditions, as well as any materials that should be provided by the responders. Requestor to provide plans showing main locations and coordinate notification of “call-before-you dig” service used in region. Traffic control considerations to be coordinated by requestor and responding utility. Pipe provided by requestor or others.

Specific types of facilities in need of assessment and repair: Main sizes and materials:

Typical depth range:

Soil conditions:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: SEWER MAINS AND MANHOLES CLEANING AND SSO / CSO CLEAN-UP TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of cleaning capability | Sewer jet / vac truck cleaning | Sewer jet truck or trailer cleaning | Sewer power rod truck cleaning | SSO / CSO clean-up team |
| Ideal Team Size | Total persons | 2 | 2 | 2 | 2 - 6 |
| Team  Composition | Team member capabilities for work indicated | 1 Lead sewer cleaning technician  1 Sewer cleaning technician | 1 Lead sewer cleaning technician  1 Sewer cleaning technician | 1 Lead sewer cleaning technician  1 Sewer cleaning technician | 1 Team leader  1 Backhoe operator  1 – 4 Utility workers |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Jet / vac truck | 1 Jet truck or jet trailer with suitable tow vehicle | 1 Sewer power rod truck | 1 4 X 4 heavy duty pick-up  1 backhoe / loader |
| Other Equipment | Other specific equipment | Necessary tools and equipment | Necessary tools and equipment | Necessary tools and equipment | Necessary rakes, shovels and other small tools |
| Materials | As needed | Expendable supplies | Expendable supplies | Expendable supplies | Lime and straw |

Comments and Definitions: Requestor should indicate degree of main and manhole cleaning needed. Requestor to identify areas for cleaning and

disposal site(s), and provide system maps to responder.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER / WASTEWATER EMERGENCY AND GENERAL MANAGEMENT SUPPORT PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Personnel** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Ability to step into utility management role to supplement  on-site personnel | Utility emergency management support team | Utility general manager / director / deputy director or operations level of capability | Individual with experience in Water / Wastewater disaster response and recovery work documentation | Components of Type  I – III |
| Personnel | Total persons | 2 - 4 | 1 - 2 | 1 | 1 |
| Team  Composition | Team member capabilities for work indicated | Qualified incident commander and individuals experienced in other NIMS / ICS roles | 1 – 2 Qualified water / wastewater agency or operations manager | Individual with ability to provide assistance with record-keeping  to meet FEMA reimbursement requirements | Components of Type  I – III |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 – 2 Light-duty vehicles preferred | 1 Light duty vehicle preferred | 1 Light duty vehicle preferred | NA |
| Other Equipment | Other specific equipment | 2- 4 Laptop computers | 1 – 2 Laptop computers | Laptop computer | NA |
| Materials | As needed | NA | NA | NA | NA |

Comments and Definitions: These personnel resource types will often be provided in combination with one-another. While personnel capable of

fulfilling Type III will often be provided in groups of more than one, they are not in a team framework and are defined in the individual mode. These personnel may often be provided by a responder in support of other resources provided. When command personnel are provided by a responder, authorities and responsibilities must be clearly established with the requestor.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER / WASTEWATER PUBLIC INFORMATION OFFICER (PIO) PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Personnel** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Draft press releases, coordinate media briefings and inquiries | Draft press releases, coordinate media briefings, public notices and inquiries | Assist with drafting press releases, coordinate media briefings, public notices and inquiries | Assist with language translation. | NA |
| Personnel | Total persons | 1 - 2 | 1 | 1 | NA |
| Team  Composition | Team member capabilities for work indicated | 1 – 2 Qualified Public Information Officer, NIMS and crisis communications training and message mapping experience preferred | Qualified assistant Public Information Officer, NIMS and crisis communications training and message mapping experience preferred | Technical specialist with foreign language capability | NA |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | 1 Light-duty vehicle preferred | NA |
| Other Equipment | Other specific equipment | Laptop computer | Laptop computer | Laptop computer | NA |
| Materials | As needed | Draft message templates and other PIO resources that can be provided | Draft message templates and other PIO resources that can be provided | Translate draft message templates and other PIO resources that can be provided into  preferred language other than English | NA |

Comments and Definitions: Requestor should indicate any multi-lingual requirements.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER AND SEWER MAIN, VALVE AND MANHOLE LOCATING AND SEWER CCTV TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Main and valve locating | Locating of water mains, sewer mains, valves and manholes | Sewer mains CCTV | NA | Components of Type  I Team |
| Personnel | Total persons | 2 | 2 | NA | 1-2 |
| Team  Composition | Team member capabilities for work indicated | 2 Locating technicians | 1 Sewer CCTV lead technician  1 Sewer CCTV  technician | NA | Any portion of Type I  that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 2 Light-duty pick-up trucks | 1 Sewer CCTV truck | NA | Any portion of Type I  that can be provided |
| Other Equipment | Other specific equipment | Locating equipment  GPS equipment, if possible | Necessary CCTV  support equipment | NA | Any portion of Type I  that can be provided |
| Materials | As needed | Marking Paint and expendable supplies | As needed | NA | NA |

Comments and Definitions: Requestor should provide system maps and indicate type of mains in need of location. GPS coordinate information

should be provided when possible. These teams may often be provided by a responder in support of other resources provided. Locators may be provided in any quantity, with a minimum of two. CCTV team may need to be supported by a jet / vac truck team. Supervision and coordination by a representative of the requestor is strongly preferred.

Types of main materials to be located:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER / WASTEWATER HEALTH AND SAFETY AND ENVIRONMENTAL COMPLIANCE PERSONNEL AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Personnel** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Ability to provide necessary compliance indicated and oversight of on- site personnel and activities | Qualified Water / Wastewater health and safety compliance officer | Qualified Water / Wastewater environmental compliance officer | NA | NA |
| Personnel | Total persons | 1 | 1 | NA | NA |
| Team  Composition | Team member capabilities for work indicated | 1 Qualified water / wastewater health and safety compliance officer, trained in HAZWOPER and other applicable requirements | 1 Qualified water / wastewater environmental compliance officer, with expertise in SDWA, CWA, CAA,  RCRA, and other CFR  49 | NA | NA |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Light-duty vehicle | 1 Light-duty vehicle | NA | NA |
| Other Equipment | Other specific equipment | Laptop computer | Laptop computer | NA | NA |
| Materials | As needed | Health and safety regulatory resource materials | Health and safety regulatory resource materials | NA | NA |

Comments and Definitions: If possible, a Health and Safety Officer should be provided with responding mutual aid and assistance teams. This

ensures familiarity with the responders and their practices.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: WATER / WASTEWATER ELECTRICAL GENERATOR AND DIRECT DRIVE TEAMS AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Capable of providing, delivering, and connecting generator of KW indicated | 125 KW or greater, based upon FEMA generator resource types (See Appendix I) | Less than 125 KW | Direct drive units | Support in starting generators where already existing |
| Ideal Team Size | Total persons | 2 | 2 | 2 | 1 - 2 |
| Team  Composition | Team member capabilities for work indicated | 1 Qualified electrician  1 Electrician’s assistant | 1 Qualified electrician  1 Electrician’s assistant | 1 Qualified mechanic  1 Mechanic’s assistant | 1 Qualified electrician or mechanic  1 – 2 Electrician’s or mechanic’s assistant |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Truck capable of pulling generator(s) delivered | 1 Truck capable of pulling generator(s) delivered | 1 Truck capable of pulling drive unit(s) delivered | 1 Pick-up truck |
| Other Equipment | Other specific equipment | Necessary tools for generator connection | Necessary tools for generator connection | Necessary tools for drive unit connection | Necessary tools for generator start-up |
| Materials | As needed | Mining cables and other necessary materials for generator connection | Mining cables and other necessary materials for generator connection | Necessary materials for drive unit connection | Materials that may be necessary for generator start-up |

Comments and Definitions: Requestor must specify KW and voltage of generators needed or existing. Requestor should indicate type of

connection provisions in place. Trailer-mounted generators are preferred to skid-mounted. Portable switch-gear preferred. Refueling arrangements must be established. RPM of direct drive units must be specified.

Volts: 480 4160 RPM: 540 1100

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: CONTROL SYSTEMS, SCADA AND RADIO SYSTEMS REPAIR AND RESTORATION TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Capable of repairing and restoring SCADA and radio telemetry  systems | Capable of repairing and restoring plant control systems, PLC, etc. | Capable of repairing and restoring remote SCADA and radio telemetry systems | Capable of repairing radio communications systems | Capable of repairing and replacing in- ground communications and control cables |
| Ideal Team Size | Total persons | 2 | 2 – 4 | 1 - 2 | 2 - 4 |
| Team  Composition | Team member capabilities for repairs indicated | 1 Qualified plant controls technician  1 Support technician | 1 Qualified plant controls technician  1 – 3 Support technicians | 1 Qualified plant controls technician  0 - 1 Support technician | 1 Team leader  1 – 3 utility workers |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Pick-up truck | 1 - 2 Heavy-duty pick- up trucks  1 bucket truck | 1 Heavy-duty pick-up truck  1 bucket truck | 1 Heavy-duty pick-up truck  1 small backhoe or trencher preferred |
| Other Equipment | Other specific equipment | Necessary tools for plant controls and PLC repairs, fluke meter, 4-20 milliamp signal generator, laptop computer with serial port | Necessary tools for SCADA repairs, fluke meter, 4-20 milliamp signal generator, laptop computer with serial port | Necessary tools for SCADA repairs, laptop computer with serial port | Necessary tools for cable repairs, hand- digging tools |
| Materials | As needed for repairs indicated | Necessary general materials for plant controls and PLC repairs | Necessary general materials for SCADA repairs | Necessary general materials for radio system repairs | Necessary general materials for cable repairs |

Comments and Definitions: SCADA = Supervisory Control and Data Acquisition. PLC = Programmable Logic Controllers. Requestors should

indicate types of controls, PLC, SCADA, telemetry equipment, radios and network cable (e.g., fiber optic, copper) used. Major repair components to be provided by requestors or others, unless otherwise arranged.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: VEHICLE AND EQUIPMENT MAINTENANCE, REPAIR AND FUELING TEAMS AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Degree and type of repair capability | Heavy field repairs of vehicles and heavy equipment | Light repairs, lubrication and other preventive maintenance of vehicles and light equipment | Tire repairs | Vehicle and equipment fueling |
| Ideal Team Size | Total persons | 2 | 1 - 2 | 1 - 2 | 1 |
| Team  Composition | Team member capabilities for work indicated | 1 Qualified mechanic  1 Vehicle repair technician | 1 Qualified mechanic  0 – 1 Mechanic’s assistant | 1 Tire mechanic  0 – 1 Tire mechanic’s assistant | 1 fuel truck operator |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 1-Ton or larger truck with equipment boom | 1 Heavy duty pick-up truck | 1 Tire truck or equivalent | 1 Fuel truck with capacity for at least  100 gallons of gasoline and 100  gallons of diesel fuel |
| Other Equipment | Other specific equipment | Necessary tools and equipment | Necessary tools and equipment | Necessary tools and equipment | Any portion of other types that can be provided |
| Materials | As needed | Necessary materials for maintenance and repairs of known equipment | Necessary materials for maintenance and repairs of known equipment | Necessary materials for maintenance and repairs of known equipment | NA |

Comments and Definitions: Type I, II and III teams may be used in conjunction with each other. These teams, especially the Type III tire repair

team and Type IV fueling team, will often be provided in conjunction with other responding teams. Fuel truck to be initially provided full of fuels, other than that which may be needed in transit. Additional fuels to be provided by requestors or others.

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| --- | --- | --- | --- | --- | --- |
| **RESOURCE: FACILITY ACCESS RESTORATION AND DEBRIS CLEARING TEAM AWWA April 2008** | | | | | |
| **Category: Public Works and Engineering (ESF 3) Subcategory: Water and Wastewater Kind: \_X\_ Team** | | | | | |
| **Component** | **Metric** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Capability | Clearing of debris and other measures to establish access to facilities | Heavy “cut and shove” clearing of vegetative and structural storm debris with personnel and heavy equipment | Light debris clearing by personnel only | General facility repairs | Components of Type  I – III Teams |
| Ideal Team Size | Total persons | 2 - 4 | 2+ | 2+ | 1-5 |
| Team  Composition | Team member capabilities for work indicated | 1 Team leader  0 - 1 Backhoe-loader operator  1 – 2 Chain saw operators  0 - 2 Utility workers | 1 Team leader  1+ Chain saw operator(s) or utility worker(s) | 2+ Building maintenance mechanics with experience in repairs of doors, windows, etc. | Any portion of Type III that can be provided |
| Vehicles and Heavy Equipment | Number and type of vehicles and heavy equipment | 1 Backhoe-loader  1 Team truck | 1 Team truck | 1 Team truck | Any portion of Type III that can be provided |
| Other Equipment | Other specific equipment | 2 18”+-Bar chain saws and other necessary tools and equipment | 2 18”+-Bar chain saws and other necessary tools and equipment | Necessary tools and equipment | Any portion of Type III that can be provided |
| Materials | As needed | NA | NA | NA | NA |

Comments and Definitions: These teams can be used in various combinations. A Type III team can be used in support of various operations

requiring bulk hauling, such as for hauling of spoil materials, stone, etc. This resource may also be provided by other public works agencies. Requestor should provide a representative to point out the location of debris-covered appurtenances to avoid accidental damage during debris clearing opera.

**Appendix I Typed Equipment Resources**

This appendix includes the FEMA typed resource definitions for equipment that is included in the teams typed in this manual. This is not a complete copy of the FEMA definitions. Also included at the conclusion of this appendix are basic descriptions of some water sector-specific equipment resources not included in the FEMA definitions.

42



**FEMA 508-7, Typed Resources - Public Works Resources** (May 2005)

U.S. Department of Homeland Security

Federal Emergency Management Agency

|  |  |  |  |
| --- | --- | --- | --- |
| **RESOURCE: DUMP TRUCK-ON ROAD** | | | |
| **Category: Public Works and Engineering (ESF #3) Kind: Equipment** | | | |
| **Minimum Capabilities**  **(Component)** | **Type I** | **Type II** | **Type III** |
| Equipment | **Triple Axle**  DOT Class 8. GVW rating 80,000; Capacities: 16-20 yards of aggregate material and demolition debris; Diesel powered with choice of Manual or Automatic Transmission; Air Brakes; Limited off-road service; Medium to long haul. Wide turning radius; CDL license required | **Tandem Axle**  DOT Class 8. GVW rating 60,000; Capacities: 10-14 yards of aggregate material and demolition debris; Diesel powered with choice of Manual or Automatic Transmission; Air Brakes; Limited off-road service; Medium to long haul; Wide turning radius. CDL license required | **Single Axle**  DOT Class 7. GVW rating 32,000; Capacities: 5-8 yards of aggregate material and demolition debris; Diesel or gas powered with choice of Manual or Automatic Transmission; Air or Hydraulic Brakes; Limited off-road service; Short to medium haul; Short turning radius; CDL license required |
| **Comments**: | | | |
| National Mutual Aid & Resource Management Initiative | | | Public Works |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: BACKHOE LOADER** | | | | | |
| **Category: Public Works and Engineering (ESF #3) Kind: Equipment** | | | | | |
| **Minimum Capabilities**  **(Component)** | **Minimum Capabilities (Metric)** | **Type I** | **Type II** | **Type III** | **Type IV** |
| **Example** |  | **446B – Cat 3114T Diesel** | **420D – Cat 3054T Diesel** | **420D IT with Quick Coupler – Cat 3054T Diesel** | **416D – Cat 3054B Diesel, Gross Power** |
| Gross Power | kw/hp | 82/110 | 66/88 | 66/88 | 58/77 |
| Operating Weight (max) | lbs | 19,630 | 15,772 | 15,772 | 15,257 |
| Dig Depth Standard Stick | ft/in | 14’5” | 14’5” | 14’5” | 14’5” |
| Extended Stick | ft/in | 18’1” | 18’1” | 18’1” | 18’1” |
| Loading Height | ft/in | 11’10” | 11’10” | 11’10” | 11’10” |
| Loading Reach | ft/in | 5’8” | 5’8” | 5’8” | 5’8” |
| Bucket Capacity | yd³ | 1.25 | 1.25 | 1.25 | 1.25 |
| Dump Height  (max angle) | ft/in | 8’4” | 8’4” | 8’1” | 8’4” |
| Dump Reach (max angle) | ft/in | 2’9” | 2’9” | 2’10” | 2’9” |
| Lift Capacity  (full height) | lbs | 6,385 | 6,385 | (w/QC) 6,970 | 5,292 |
| Bucket Breakout Force | lbs | 10,131 | 10,131 | 10,564 | 8,524 |
| Fuel Capacity | gal | 34 | 34 | 34 | 34 |

**Comments:**

Caterpillar is used as an example only.

420 IT tools include the following:

**Backhoe Work Tools:** Buckets - Standard, Heavy Duty, Heavy Duty Rock, High Capacity, Coral, Ditch Cleaning; Hydraulic Hammer; Vibratory Plate Compactor; Ripper.

**Loader Work Tools:** Buckets - General Purpose, Multipurpose, Side Dump, Light Material, Penetration; Loader Forks; Material Handling Arm; Angle Blade; Broom; Rake; Asphalt Cutter; Bale Spear.

446B 420D 420D IT 416D



National Mutual Aid & Resource Management Initiative Public Works

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RESOURCE: GENERATOR** | | | | | | |
| **Category: Public Works and Engineering (ESF #3) Kind: Equipment** | | | | | | |
| **Minimum Capabilities (Component)** | **Minimum Capabilities (Metric)** | **Type I** | **Type II** | **Type III** | **Type IV** | **Type V** |
| Equipment | KW | **XQ2000**  2000 kW Generator; Sound attenuated;  Trailer mounted  (semi tractor); Up to  3015 Amps@ 480  Volts, 3 Phase, 60  Hz; Dry weight  89,000 lbs; Fuel tank  capacity 1250  Gallons; Dimensions  40’ Long x 8’ Wide x  13’.5” Tall; Potential  application example– Single or multiple units for: power plants, heavy industrial facility,  high-rise buildings;  Setup time (cables from generator to main power feed estimated at 5+ hours) | **XQ1500**  1500 kW Generator, Sound attenuated;  Trailer mounted (semi tractor); Up to 2260  Amps@ 480 Volts, 3  Phase, 60 Hz; Dry  weight 59,000 lbs; Fuel tank capacity  1250 Gallons; Dimensions 40’ Long x 8’ Wide x 13’.5” Tall; Potential application example– Single or multiple units for: universities, hospitals, medium to large manufacturing facility; Setup time  (cables from generator to main power feed estimated at 5+ hours) | **XQ600**  600 kW Generator; Sound attenuated;  Trailer mounted (semi tractor); Up to 2080  Amps@ 208 Volts, 3  Phase, 60 Hz / up to  902 Amps@ 480  Volts 3 Phase, 60 Hz;  Dry weight 37,000 lbs; Fuel tank capacity 660  Gallons; Dimensions  40’ Long x 8’ Wide x  13’.5” Tall; Potential application examples: Retail stores, HVAC system power, multi- story/buildings, light manufacturing, apartment buildings; Setup time (cables from generator to main power feed  estimated at 3+ hours) | **XQ400**  400 kW Generator; Sound attenuated;  Trailer mounted (pull behind); Multi- voltage distribution panel; Up to 1390  Amps @ 208 Volts, 3  Phase, 60 Hz/up to  602 Amps@ 480  Volts 3 Phase, 60 Hz;  Dry weight 16,800 lbs; Fuel tank  capacity 470 Gallons; Dimensions 23’ Long x 8’.5” Wide x 11’ Tall; Potential application example: Large office building, public schools, libraries, and communication equipment. Setup  time (cables from generator to main power feed estimated at 2+ hours) | **XQ125**  125 kW Generator; Sound attenuated;  Trailer mounted (pull behind); Multi- voltage distribution panel; Up to 433  Amps@ 208 Volts, 3  Phase, 60 Hz / up to  188 Amps @ 480  Volts 3 Phase, 60  Hz; Dry weight  10,610 lbs; Fuel tank  capacity 223  Gallons; Dimensions  18’.5” Long x 6’.5” Wide x 9’ Tall; Potential application example: Small  office building, emergency mobile trailers & operations, restaurants. Setup time (cables from generator to main power feed  estimated at 1 hour) |

**Comments:**

2500-gallon external fuel tanks available. Fuel consumption is estimated at 7% of the kW usage (example: fuel consumption on a 100 kW Generator operating at full load is approximately 7 gallons per hour). Technicians are available for hookup and monitoring of equipment. 4/0 Quick connect (Cam-Lock) cable is available for tie-in to power feed, rated at 400 Amps each cable. Fuel supply, and/or fuel vendors available. Power distribution equipment available. Transformers & Load Banks are available.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | XQ2000 XQ1500 | XQ600-400 | XQ125 | XQ125 |
|  | National Mutual Aid & Resource Management Initiative |  |  | Public Works |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RESOURCE: HYDRAULIC TRUCK CRANES** | | | | |
| **Category: Public Works and Engineering (ESF #3) Kind: Equipment; Personnel; Vehicle** | | | | |
| **Minimum Capabilities (Component)** | **Minimum Capabilities (Metric)** | **Type I** | **Type II** | **Type III** |
| Equipment and  Personnel | Tons | **75-70**  Crane type with boom reach of 190-  170 feet; With jib add approx. 30 feet;  Self-propelled/driven over the road; Operator furnished; Setup time minimal; Counter weight transported by tractor-trailer; No other special transport permit required | **65-60**  Crane type with boom reach of 160-  150 feet; With jib add approx. 30 feet;  Self-propelled/driven over the road; Operator furnished; Setup time minimal and ready for use; No special transport permit required | **40-35**  Crane type with boom reach of 140 feet; With jib add approx. 30 feet;  Self-propelled/driven over the road; Operator furnished; Setup time minimal and ready for use; No special transport permit required |
| **Comments:**  Check with your local/State transportation and law enforcement organizations to determine mobilization requirements. | | | | |
| National Mutual Aid & Resource Management Initiative | | | | Public Works |



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RESOURCE: HYDRAULIC EXCAVATOR (LARGE MASS EXCAVATION 13 CY TO 3 CY BUCKETS)** | | | | |
| **Category: Public Works and Engineering (ESF #3) Kind: Equipment** | | | | |
| **Minimum Capabilities (Component)** | **Minimum Capabilities (Metric)** | **Type I** | **Type II** | **Type III** |
| Equipment | Cubic Yard | 5130B ME  Net HP (800); Operating  Weight-Std. (399000 lb); Bucket  Capacity-HDR (13.7 yd3); Max. Digging Depth (27.6 ft); Max. Reach at Ground Level (48.9  ft); Max. Dump Height (29.8  ft); Max. Drawbar Pull (196000); Fuel Tank (987 gal); Overall Width (21.7 ft); Height To Top Of Cab (21.4 ft); Track Length-Std. (23.8 ft) Mining Machine | 385B-L  Net HP (513); Operating Weight-Std. (183940 lb); Operating Weight-Long (L)  Undercarriage (189770 lb); Bucket Capacities-HDR (2.5 yd3) - General Purpose GP (5.5 yd3); Max. Drawbar Pull (132810); Fuel Tank (328 gal); Max. Digging Depth (38.7 ft); Max. Reach at Ground Level (56.11 ft); Max. Dump Height (37.11 ft); Minimum Loading Height (11.1 ft); Overall Width (12.7 ft); Height To Top Of Cab (12 ft); Track Length-Std. (19.2 ft) | 375-L, 365B-L Series II  In respective order of size; Net HP (428-404); Operating Weight-Std. (173100 lb-149000 lb);  Operating Weight-Long (L) Undercarriage (179800 lb-150200 lb); Bucket Capacities- HDR (2.5 yd3-1.6 yd3) - General Purpose GP (5 yd3); Max. Drawbar Pull (126300 -103820); Fuel Tank (261gal-211 gal); Max. Digging Depth (37.7ft-31 ft); Max. Reach at Ground Level (52ft-46 ft); Max. Dump Height  (33.11ft-30 ft); Overall Width (13.6ft-11.6ft);  Height To Top Of Cab (12.2ft-11.11ft); Track Length-Std. (20.10 ft-19.3ft) |
| **Comments:**  To better match bucket needs to material conditions, contact dealer and or owner. The reference to “L” means Long Undercarriage. Mobilization may require more than one truck-trailer.  5130B 385 B &L 375 & L 365B L Series II | | | | |
| National Mutual Aid & Resource Management Initiative | | | | Public Works |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RESOURCE: HYDRAULIC EXCAVATOR (MEDIUM MASS EXCAVATION 4 CY TO 1.85 CY BUCKETS)** | | | | | |
| **Category: Public Works and Engineering (ESF #3) Kind: Equipment** | | | | | |
| **Minimum Capabilities (Component)** | **Minimum Capabilities (Metric)** | **Type I** | **Type II** | **Type III** | **Type IV** |
| Equipment | Cubic Yard | 345B L Series II  Net HP (321); Operating  Weight-Long  Undercarriage (111180 lb for UHD–97940lb); Bucket Capacity-HDR (3 yd3); Bucket Capacities General Purpose GP (4 yd3); Max. Digging Depth (23.7 ft); Max. Reach at Ground Level (37.2 ft);  Max. Loading Height (22.6 ft); Max. Drawbar Pull (74380 lb); Fuel Tank (190 gal); Overall Width (11.5 ft); Height To Top Of Cab  (15.1 ft); Track Length-Std.  (17.7 ft) | 330C - 325C L  In respective order of size; Net  HP (247-188); Operating Weight-  Long Undercarriage (77400 lb-  63100 lb); Bucket Capacities-  HDR (2.12 yd3-1.75 yd3); Bucket Capacities General Purpose GP (3 yd3-2.5 yd3); Max. Drawbar Pull (66094 lb-54853 lb); Fuel Tank (163 gal-132 gal); Max. Digging Depth (24.3 ft-23.3 ft); Max.  Reach at Ground Level (35.10 ft-  34.6 ft); Max. Loading Height  (23.7 ft-23.4 ft); Minimum Loading Height (8.11 ft-8 ft); Overall Width (11.3 ft-11.1 ft); Height To Top Of Cab (11 ft-  10.11 ft); Track Length-Std. (16.6 ft-15.3 ft) | 322C L - 320C L \*\*Note In respective order of size;Net HP (168-138); Operating Weight-Long Undercarriage; (53600 lb-  46300 lb); Bucket Capacities- HDR (2.12 yd3-1 yd3) - General Purpose GP (3 yd3-  1.75 yd3); Max. Drawbar Pull  (50132 -44040); Fuel Tank (132 gal-106 gal); Max. Digging Depth (22 ft-22 ft); Max. Reach at Ground Level (32.10 ft-32.4 ft); Max. Loading Height (22.1ft-21.4 ft); Overall Width (11.6ft-9.6 ft); Height To Top Of Cab (10.9-9.11ft); Track Length- Std. (15.3 ft-13.4ft) | 321B L- 320C L Utility Models  \*\*Note  In respective order of size; Net HP (168-138); Operating Weight- Long Undercarriage;  (50927 lb-50700 lb); Max. Drawbar Pull (44063 -44040);  Fuel Tank (66 gal-  gal); Bucket capacities and other handling performances will  be similar to 320 C L |

**Comments:**

To better match bucket needs to material conditions, contact dealer and or owner. The reference to “L” means Long Undercarriage. Mobilization may require more than one truck w/trailer. Boom type will change reach, digging depth, and handling performances.

\*\***Note:** 320C L has two versions for difference applications. Utility model has smaller radius.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 345B L Series II UHD 345B L Series II | 330C-325C L | 322C-320C L | 321B-320C L |
|  | National Mutual Aid & Resource Management Initiative |  |  | Public Works |

**Additional Equipment Definitions**

This Appendix section provides basic descriptions and definitions for specialized water sector equipment that is identified on some of the teams described in this manual and is not detailed in FEMA resource descriptions.

**Sewer Jet / Vac Truck**

A sewer jet / vac truck, also sometimes referred to as a “combination truck”, is a truck with a clean water tank of at least 750 gallons and the capability for jetting sewer mains with a stream of water of at least 10 gpm at 2,000 psi and for vacuuming material from the mains. For the purpose of this manual, a large jet / vac truck is one with a debris body of 10 cubic yards or greater and a small jet / vac truck is one with a debris body of less than 10 cubic yards.

Large sewer jet / vac truck

Small sewer jet / vac truck



**Sewer Jet Truck**

A sewer jet truck is a truck with a clean water tank of at least 500 gallons and the capability for jetting sewer mains with a stream of water of at least 10 gpm at 2,000 psi. Sewer jet units can also be trailer-mounted.

Sewer jet truck



**Sewer Power Rod Truck**

A sewer power rod truck is a truck equipped with at least 500’ of continuous or sectional rods of at least 5/16” diameter, driven by a motor of at least 10 hp, for clearing sewer main obstructions. Sewer power rod units may also be trailer-mounted.

Sewer power rod truck



**Water Valve Operating Truck**

A water valve operating truck is a truck with a mechanical valve operator capable of turning water valves at least 5 rpm with a minimum of 1,000 foot-pounds of torque. A water valve vacuum unit provides at least 250 cfm of vacuum through a 2” hose and wand, through a filter and into a debris body of at least 10 cubic feet. Either the valve operator or the vacuum unit may also be trailer-mounted.

Water valve truck with vacuum unit



**Appendix II EMAC REQ-A Form**

**EMAC REQ-A INSTRUCTIONS:**

Each "Tab" of this Excel Worksheet is a Section of the EMAC REQ-A. Please read the instructions carefully and be sure you understand the process (which closely mirrors the EMAC on-line REQ-A process within the EMAC Operations System (EOS).

|  |  |
| --- | --- |
| **Section I: Completed by Requesting State** | |
| **1** | A-Team member (In state or out of state) completes Section I of the EMAC REQ-A Form. |
| **2** | If completed on-line, the A-Team member must certify that they have the EMAC Authorized  Representative signature a |
| **3** | The REQ-A Section I page must now be put into EOS (either by scanning and uploading or by faxing to 1-888-883-4450). |

|  |  |
| --- | --- |
| **Section II: Completed by the Assisting State** | |
| **1** | Complete all parts of the EMAC Form REQ-A Section II (including detailed cost estimate). |
| **2** | Representative in the Assisting State. The signature section is found at the top of the REQ- A. |
| **3** | The Excel sheet does contain forumlas for the cost estimate section. If a forumula lost within the form, either download a new form or seek help to repair unless you know how to do so on your own. |
| **4** | The "print area" set in this Section cuts the personnel off on the first page (page 2 of the printed Section). To include more personnel in the printout, simply adjust the print area on that page. |
| **5** | The REQ-A Section II page must now be put into EOS (either by scanning and uploading or by faxing to 1-888-883-4450). |

|  |  |
| --- | --- |
| **Section IIII: Completed by the Requesting State** | |
| **1** | After reviewing Section II (completed by the Assisting State) and reviewing it to the initial request (in Section I), the EMAC Authorized Representative in the Requesting State signs Section III of the EMAC REQ-A. |
| **2** | The REQ-A Section II page must now be put into EOS (either by scanning and uploading or by faxing to 1-888-883-4450). |

|  |  |
| --- | --- |
| **Amendments:** | |
|  | When either party (Requesting State or Assisting State) deems it necessary to amend the  REQ-A, Section II and Section III must always be completed. |
| If only the Requesting State is amending the REQ-A, all sections (Section I, Section II, and  Section III must be completed. |
| Please follow all instructions given in each section (above). |
| The amendment number - version of how many times it has been amended must be  recorded in sequential number. Example: Amendment Number: 1, 2, 3, 4, etc. |

For help with the REQ-A Form (paper or on-line - please contact Angela Copple - [acopple@csg.org](mailto:acopple@csg.org)

**Emergency Management Assistance (EMAC) Interstate Mutual Aid Request for Assistance Form REQ-A, 2007**



|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SECTION I: TO BE COMPLETED BY THE REQUESTING STATE** | | | | | | | | | |
| **Event Name:** | |  | | | **State Mission #:** | |  | | |
| **Date:** | |  | | | **EMAC #:** | |  | | |
| **Time:** | |  | | | **From State of:** | |  | | |
| **REQ-A Contact Name:** | | | |  | | | | | |
|  | **Phone:** | |  | | **E-mail:** |  | | | |
| **Mission Type:** | | | Pick Type: | | **If State:** | Pick  Discipline: | | **If NG:** | Pick Status: |
| **Mission Assignment:** | | |  | | | | | | |
| **Resources Needed:** | | |  | | | | | | |
| **Mobilization:** | | | | | | | | | |
|  | Date Needed: | |  | | Time needed: | | Pick hrs: | | hrs |
| **Demobilization:** | | | | | | | | | |
|  | Date Released: | |  | | Time needed: | | Pick hrs: | | hrs |
| **Special Deployment Considerations:** | | | | | | | | | |
|  | **Working Conditions** | | | | Pick One: | | | | |
| **Living Conditions** | | | | Pick One: | | | | |
| **Work Location/Facilities: State EOC:** | | | | Pick One: | | | | |
| **Additional Conditions Comments:** | | | |  | | | | |
| **Saftey Concerns/Remarks:** | | | |  | | | | |
| **Resource Coordination Contact:** | | | | **Name/Title:** | |  | | | |
|  | **Phone:** |  | | | **E-mail:** |  | | | |
| **Staging Area:** | | | | **Location:** |  | | | | |
|  | **Address:** | | |  | | | | | |
| **Name of EMAC Authorized**  **Representative:** | | | |  | | | | | |
| **Signature of EMAC Authorized**  **Representative with date:** | | | |  | | | **Date:** |  | |

**Emergency Management Assistance (EMAC) Interstate Mutual Aid Request for Assistance Form REQ-A, 2007**



|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SECTION II: TO BE COMPLETED BY THE ASSISTING STATE** | | | | | | | | | |
| **The EMAC Authorized Signature below certifies that infrormation contained herein is a mission estimate to be accepted or declined by the EMAC Requesting State.** | | | | | | | | | |
| **Name of EMAC Authorized Representative:** | | | |  | | | | | |
| **Signature of EMAC Authorized**  **Representative with date:** | | | |  | | | **Date:** |  | |
| **Date:** | |  | | | **Time:** | |  | | |
| **Event Name:** | |  | | | **EMAC #:** | |  | | |
| **State Mission #:** | |  | | | **Requesting State**  **Tracking Number:** | |  | | |
| **REQ-A Contact Name:** | | | |  | | | | | |
|  | **Phone:** | |  | | **E-mail:** |  | | | |
| **Mission Type:** | | | Pick One: | | **If State:** | Pick Discipline: | | **If NG:** | Pick  Status: |
| **Mission Assignment:** | | |  | | | | | | |
| **Resources Available:** | | |  | | | | | | |
| **In-state Resource Point of Contact:** | | | |  | | | | | |
|  | **Phone:** | |  | | **E-mail:** |  | | | |
| **Mobilization:** | | | | | | | | | |
|  | Date Available: | |  | | Time needed: | | Pick hrs: | | hrs |
| **Demobilization:** | | | | | | | | | |
|  | Date Released: | |  | | Time needed: | | Pick hrs: | | hrs |
| **COST ESTIMATE (details on subsequent pages):** | | | | | | | | | |
| **Total Cost Estimate:** | |  | | | **Total Cost Estimate (Total from Excel sheet):** | | **$0.00** | | |

**Emergency Management Assistance (EMAC) Interstate Mutual Aid Request for Assistance Form REQ-A, 2007**

|  |  |  |  |
| --- | --- | --- | --- |
| **Total Travel Costs:** | | | **$0.00** |
|  | | | |
| # of fuel consuming equipment: |  | # of non-fuel consuming equipment: |  |
|  | | | |
| **Travel Costs:** | | | |
| Personal Vehicle: |  | Vehicle Rental/Fuel/Mileage: |  |
| Governmental Vehicle Costs: |  | Air Travel: |  |
| Meals/tips: |  | Lodging: |  |
| **Notes/Comments:** | | | |
|  | | | |

**Emergency Management Assistance (EMAC) Interstate Mutual Aid Request for Assistance Form REQ-A, 2007**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total Equipment Costs:** | | | | | | | | **$0.00** | |
|  | | | | | | | | | |
| **Equipment Costs** (insert lines as needed): | | | | | | | | | |
| **Description:** | | | | | | | | **Cost:** | |
| 1 |  | | | | | | |  | |
| 2 |  | | | | | | |  | |
| 3 |  | | | | | | |  | |
| 4 |  | | | | | | |  | |
| 5 |  | | | | | | |  | |
| **Total Commodity Costs:** | | | | | | | | **$0.00** | |
| **Commodity Costs** (insert lines as needed): | | | | | | | | | |
| **Description:** | | | | | | | | **Cost:** | |
| 1 |  | | | | | | |  | |
| 2 |  | | | | | | |  | |
| 3 |  | | | | | | |  | |
| 4 |  | | | | | | |  | |
| 5 |  | | | | | | |  | |
| **Total Other Costs:** | | | | | | | | **$0.00** | |
| **Other Costs** (insert lines as needed): | | | | | | | | | |
| **Description:** | | | | | | | | **Cost:** | |
| 1 |  | | | | | | |  | |
| 2 |  | | | | | | |  | |
| 3 |  | | | | | | |  | |
| 4 |  | | | | | | |  | |
| 5 |  | | | | | | |  | |
| **Total Personnel Costs:** | | | | | | | **$0.00** | | |
| Enter Total # of Personnel on Mission:: | | | | | | |  | | |
|  | | | | | | | | | |
| **Detail for Personnel costs (insert lines as needed):** | | | | | | | | | |
| Name: | Regular Salary  Hourly Rate | Fringe Benefit  Hourly Rate | # of Regular Hours worked per day | Overtime Salary Hourly Rate | Overtime Fringe Benefit Hourly Rate | # of Overtime Hours worked per day | # of Days on  Mission | Total Daily  Cost | Total Mission Cost |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |
|  |  |  |  |  |  |  |  | #REF! | $0.00 |

**Emergency Management Assistance (EMAC) Interstate Mutual Aid Request for Assistance Form REQ-A, 2007**



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SECTION III: TO BE COMPLETED BY THE REQUESTING STATE** | | | | | | |
| **Date:** |  | | | **Time:** |  | |
| **Event Name:** |  | | | **EMAC #:** |  | |
| **Requesting State**  **Tracking Number:** |  | | | **Assisting State**  **Tracking Number:** |  | |
| **Mission Assignment** | |  | | | | |
| **The EMAC Authorized Signature below certifies that they have reviewed Section II submitted by the Assisting State and agree to the estimated mission costs and requirements. The mission is accepted.** | | | | | | |
| **Name of EMAC Authorized**  **Representative:** | | |  | | | |
| **Signature of EMAC Authorized**  **Representative with date:** | | |  | | **Date:** |  |
| **Date:** |  | | | **Time:** |  | |

**Appendix III Mutual Aid and Assistance Cost Estimate**

**Development Spreadsheet**

56

**AWWA Resource Typing Manual - Mutual Assistance Cost Estimate Development Spreadsheet**

**(blue shaded boxes contain formulas and should not be typed in unless a change in the formula is needed)**

**1. TEAM/PERSONNEL/EQUIPMENT Requested1:**

**Personnel (insert lines above**

**Regular Salary**

**Fringe Benefit**

**# of Regular**

**Hours worked Overtime Salary**

**Fringe Benefit**

**Overtime**

**# of Overtime**

**Hours Worked**

**# of Days on**

**Total Daily**

**Total**

**subtotal as needed) Position(s)**

**Hourly Rate**

**Hourly Rate**

**per day**

**Hourly Rate**

**Hourly Rate**

**per day2**

**Mission**

**Cost**

**Mission Cost**

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

12 $0.00 $0.00

**Subtotal:**

**$0.00 $0.00**

**Equipment Item Hourly Rate3 No. of Hours Total Notes:**

(insert lines above subtotal as $0.00 needed) $0.00

$0.00

$0.00

$0.00

**Subtotal:**

**$0.00**

**Commodities/Materials Item Unit Cost Quantity Total** (insert lines above subtotal as $0.00 needed) $0.00

$0.00

$0.00

$0.00

**Subtotal:**

**$0.00**

**Other Costs4 Item Unit Cost Quantity Total** (insert lines above subtotal as $0.00 needed) $0.00

$0.00

$0.00

$0.00

**Subtotal:**

**$0.00**

**2. TRAVEL Units Description Total**

**Lodging** $/person/night

**Food** $/day/person

**Personal Vehicle** # x miles x 0.0488/mile

**Government Vehicle** # x miles x 0.0488/mile daily/weekly rate as

**Rental Vehicle**

applicable x duration

**Air Travel** $/person/roundtrip

**Other Travel** as necessary

**3. TOTAL EXPECTED DEPLOYMENT COST: Footnotes:**

**1 From requestor, may be more than one and of different kind/type**

**2 Assumes a 12-hour work day**

**3 Use FEMA rates if unknown**

**4 Items to Consider:** Fuel for equipment, O&M for equipment

**Subtotal:**

**$0.00**

**$0.00**

Page 1 of 1

**Appendix IV Mutual Aid and Assistance Responders**

**Accommodations Checklist**

**Mutual Aid and Assistance Responders**

**Accommodations Checklist**

**Note:** It must be recognized by all parties involved that accommodations in emergency mutual aid and assistance situations are highly variable and subject to change.

Information on this form is provided in good faith and is non-binding. Responders should be as prepared as possible for self-sufficiency and changes in conditions.

**Requestor Location / Utility: Incident:**

**Comments: Access**

Staging or reporting location:

Recommended route into area:

An escort from the requestor will be necessary in order for responders to clear access check-points and reach the requestor:

Yes No

The requestor will be able to provide that escort:

Yes No

Comments:

Special documentation or credentials will be required in order for the responders to clear

access check-points: Yes No

Explain:

Curfews are in place: Yes No

Explain:

Most street signs are in place: Yes No

Requestor will be able to provide local maps: Yes No

Requestor will be able to provide GPS coordinates: Yes No

Requestor will be able to provide GPS units: Yes No

**Housing and Sanitation**

Normal hotel / motel accommodations available:

Yes No

To be arranged by: Requestor

To be paid for by: Requestor

Approximate distance from work location: Comments:

Utility name: Responder Utility name: Responder

miles

Temporary shelter provided by requestor or other assisting agencies:

Yes

No Agency name:

Restrooms: Yes No Portable toilets: Yes No Showers: Yes No Beds or cots: Yes No Bedding provided: Yes No Climate controlled: Yes No Location:

Distance to staging area: Distance to work location: Comments:

Shelter (tents , campers, etc.) must be provided by responder:

Yes No

Location provided: Yes

Hook-ups available: Water

No

Elect

Sewer

Sewer dump location available: Yes No Restrooms: Yes No Portable toilets: Yes No Showers: Yes No Portable generators permitted: Yes No

Gasoline

Comments:

Diesel fuel

available for generators

Sanitation facilities at work location:

Restrooms with running water nearby: Yes No

Portable toilets: Yes No

Comments:

Expected temperature range (F): Long-range forecast:

Five-day weather forecast:

Other housing and sanitation comments:

**Food and Water**

Restaurants available: Yes No

Meals to be financially arranged by: Requestor

Responder

Approximate distance from work location: Comments:

Responsible utility:

miles

Meals provided by requestor: Yes No

Provider name: Comments:

Grocery stores open and stocked: Yes No

Distance from work location: Open with limited stock:

Distance from work location: Comments:

Food must be provided by responders: Refrigeration available: Yes Cooking facilities available: Yes Ice available: Yes

Provided by requestor: Yes

Available for purchase: Yes

Comments:

miles miles

No No No No No

Running water available for drinking, bathing, etc.: Yes No

Running water available for bathing, etc., only: Yes No

Bottled water available: Yes No

Provided by requestor

Available for purchase

No water available -- all water must be brought by responders

Comments:

Other food and water comments:

**Employee Safety:**

First aid services available: Yes No

Paramedic / EMT services available: Yes No

Trauma services available: Yes No

Hospital services available: Yes No

Comments:

**Employee Safety (cont.):**

Current inoculations required of responders: Tetanus

Hep A

Hep B Others:

\*Basic PPE always required of all responders\*

Basic PPE: hard hat, safety vest, safety shoes, appropriate boots, appropriate gloves, raingear and eye and ear protection as needed Chain saw operator PPE: add chaps

Special PPE recommended or required: Other potential exposures or conditions: Animal or insect hazards or nuisances present: Injury reporting procedure:

Comments:

Psychological conditions anticipated: Routine storm damage Significant damage to properties Significant loss of livestock

Significant loss of companion animals

Significant loss of life and/or human suffering

Finding of human corpses possible Psychological counseling provided: Yes Comments:

**Communications:**

probable

No

Voice Communications:

Normal telephone service available: Yes No

Phones available:

Pay phones available: Yes No

Cell phones operable: Yes

No Limited coverage

Satellite telephones provided: Yes No

Requestor will be able to provide responder teams with one two-way radio per

team: Yes No

Radio frequency used: Comments:

Data Communications:

Wired or wireless high-speed Internet access available: Yes No

Dial-up Internet access available: Yes No

**Vehicular and Equipment Needs:**

Requestors will provide or ensure availability of vehicle diesel fuel and gasoline

Utility name:

Available for purchase

Responders must bring own diesel fuel

and gasoline

In disasters involving structural debris on roadways:

Requestors will provide or ensure availability of tire repair services:

Yes No

Utility name:

Commercially available at charge

Responders must bring own tire repair capabilities: Yes No

Chain saw parts and repair services available: Yes No

Provided by (agency name):

Commercially available at charge: Yes No

Must be provided by responders: Yes No

Comments:

Vehicle and heavy equipment services Provided by requestor: Yes No Commercially available: Yes No

Responders must bring own vehicle and heavy equipment repair capabilities:

Local businesses of relevance to responders that are not open:

**Other Responders’ Needs**

Financial:

Banks open: Yes No Bank teller machines operational: Yes No Credit cards OK at most business establishments: Yes No Responders purchase orders likely accepted: Yes No

Travelers’ checks accepted: Yes No

Cash required: Yes No

Suggested amount:

Notable cash-related security issues, if any:

Coins needed for laundry machines, vending machines, etc. Yes No

Comments:

**Other Responders’ Needs (cont.)**

Laundry services available: Yes Provided by requestor Comments:

Other comments:

No

Coin laundry services available

**Form Completed By: Name:**

**Signature:**

**Title / Role:**

**Agency:**

**Date:**

1. AWWA developed the AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual* to provide guidance to water and wastewater utilities when they request and provide mutual aid/assistance resources during and after an emergency. Resource typing is the categorization and description of response resources that are commonly exchanged in disasters through mutual aid/assistance agreements. For more information on resource typing, visit http://www.fema.gov/national-incident-management-system/national-integration-center-resource-management The AWWA *Water & Wastewater Mutual Aid & Assistance Resource Typing Manual* is available at [www.nationalwarn.org](http://www.nationalwarn.org). [↑](#footnote-ref-1)
2. For more information on U.S. DHS HSEEP, visit [https://www.preptoolkit.org/web/hseep-resources](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.preptoolkit.org_web_hseep-2Dresources&d=DQMFAw&c=2VZYbtYJv2D8M43KsrFplYR_K_qvRt8ALW9zIemmNsU&r=In8pcdb4Tl6kUob7kzQprYM34SRqSSLC1wU6G_vaWn8&m=rQQKly2c5ofRBuVujoMhCvMZRBDZQpUTATwtg17NuP8&s=hzLRDEM26zQYMhLZNZeoaxk_-ZdbIILcPkU_7fuXpfU&e=) . [↑](#footnote-ref-2)
3. Page 12. Draft National Incident Management System. April 2007. [↑](#footnote-ref-3)
4. “Field” refers to any response remote from the utility headquarters. This could include response to a filter plant, pumping plant, pump station, main break, etc. [↑](#footnote-ref-4)
5. For a complete listing of ICS forms, go to the FEMA ICS Resource Center at: <http://training.fema.gov/EMIWeb/IS/ICSResource/index.htm> . [↑](#footnote-ref-5)