



City and County of San Francisco Emergency Response Plan

ESF #12:

Water and Utilities Annex





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ESF #12: Water and Utilities
 Process Flow Chart
 Planned or Unplanned Event

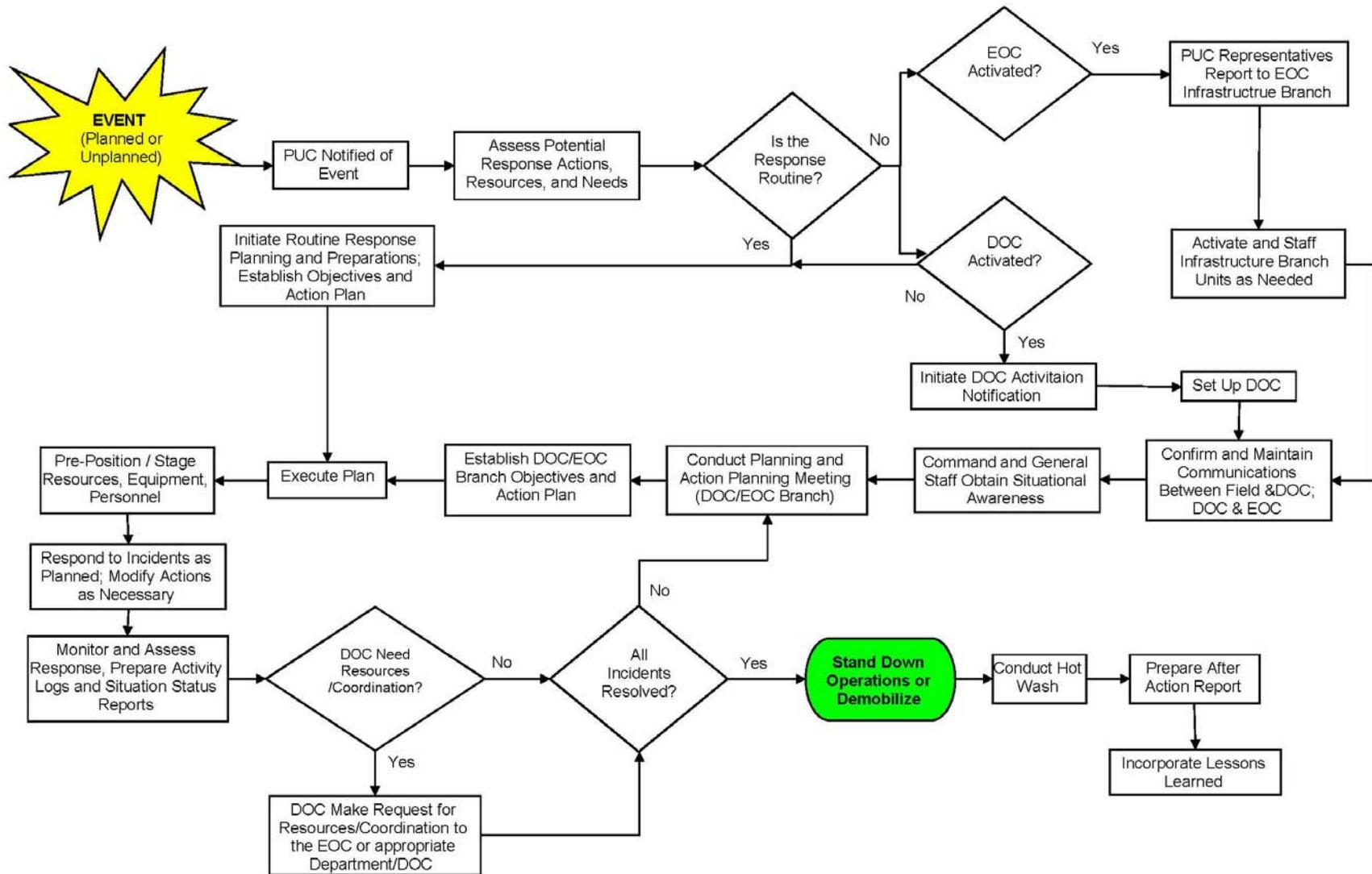


Figure A: Event Process Flow Chart



Section I: Introduction

1.1 Coordinating and Supporting Departments

Coordinating Department	PUC
Supporting Department(s)	DBI, MTA-DPT, DPW, DT

1.2 Overview of Department Responsibilities

Department	Responsibilities
PUC	<ul style="list-style-type: none"> Assign ICS positions, as required. This includes field-level Incident Command, DOC, EOC Infrastructure Branch Coordinator, Water and Utilities Group Coordinator, and Unit Leaders. Obtain water and utility system status updates. Coordinate restoration and repair of utility services. Provide information releases through DEM. Order additional resources, as needed.
DBI MTA-DPT DPW DT	<ul style="list-style-type: none"> Conduct damage assessments for buildings and facilities. Provide traffic control points. Conduct damage assessments for roads and public infrastructure. Coordinate Geographic Information System (GIS) personnel and the production of maps for DOC/EOC. Ensure telecommunication and data systems are functional in DOC/EOC.
All Supporting Departments	<ul style="list-style-type: none"> Provide assessment and restoration of all disrupted non-municipal services.

1.3 Purpose

Emergency Support Function (ESF) #12: Water and Utilities provides guidance on local assistance and resources to enable restoration of water systems and utilities¹ in as soon as possible following a large-scale City and County of San Francisco (CCSF) event. The purpose of this function is to identify water system and utility shortfalls, assist water system and utility providers with requests for emergency response assistance, and coordinate private and public sector response efforts to ensure timely restoration of water systems and utilities following a large-scale disaster or event.

¹ For the purposes of this annex, water system and utilities include electricity; gas (natural and liquefied petroleum); fuel; water; sewer; communications (landline, cell phone, satellite, etc.); and other utility services.



1.4 Scope

ESF #12: Water and Utilities supports emergency response operations through the facilitation of assessment and restoration of damaged water and utilities infrastructure systems within CCSF. This annex details the procedures, responsibilities, and concept of operations during a potential, imminent, or declared emergency. Specific objectives are as follows:

- Coordinate status reporting of all utility systems.
- Coordinate the restoration and repair of disrupted municipal services with utility services, such as the water and wastewater.
- Coordinate with utility service providers for the assessment and restoration of disrupted non-municipal services, such as cable, Internet, landline phone, cell phone, gas, and electric.



Section 2: Concept of Operations

2.1 General Concepts

The *ESF #12: Water and Utilities Annex* will be utilized by the San Francisco Public Utilities Commission (PUC) and supporting departments during an event. Procedures pertaining to this function do not pre-empt or nullify existing PUC functions as they operate within the Incident Command System (ICS).

This Concept of Operations will outline the following elements of the water and utilities function:

- Infrastructure Assessment, Repair, and Restoration
- Energy Industry Coordination
- Tagging/Approval of Electrical and Gas Industry Connection
- Information Flow
- Organization and Structure
- Notification and Activation Procedures
- Response Actions
- Logistical Considerations
- Deactivation Procedures

2.1.1 Infrastructure Assessment, Repair, and Restoration Primary Roles

Infrastructure assessment, repair, and restoration includes repairing or replacing temporary and permanent infrastructures, as well as stabilizing or resuming operation of potable water, wastewater, oil/fuel pipelines, natural gas, electric, telecommunications, Internet, and cable services. During an event requiring support to multiple utilities infrastructure, ESF #12 may be activated in concert with other ESFs that have primary responsibility over specific infrastructure resources. As such, ESF #12 may coordinate with the following functions:

- *ESF #1: Transportation*
- *ESF #2: Communications*
- *ESF #3: Public Works and Engineering*

During an EOC activation, infrastructure support will occur in the Infrastructure Branch. Communications infrastructure is the only exception, which will occur through the EOC Communications Branch. In an event that impacts San Francisco water and/or utilities, PUC will assume the role of Incident Commander (for water system and utility emergencies) or be assigned to the Emergency Operations Center (EOC) as Infrastructure Branch Coordinator or Water and Utilities Group (WUG) Coordinator.



PUC will have the primary responsibility for monitoring and assessing critical water systems and utility restoration in order to expedite response efforts and the restoration of energy facilities. The PUC will ensure the water system (backbone, turnouts, and main) are sound and charged. If the water system is damaged, the number one priority for PUC is to restore water system operations. Additionally, the assessment of damage, restoration, and protection of water and utilities infrastructure resources will be a priority during emergency operations.

2.1.2 Water and Utilities Group Functions

Functioning under the Infrastructure Branch in the EOC, the WUG Coordinator has the following primary roles:

1. Maintain an internal Standard Operating Procedure (SOP) that addresses the following:
 - 24-hour notification procedures for staff
 - Internal energy response procedures and strategies
 - Management assignments, checklists, and report forms necessary for the implementation and response management of ESF #12
2. Act as a conduit between private and public water system and utility providers and the EOC, which includes the following:
 - Obtaining information on damaged energy systems and component assessments
 - Identifying city and county priorities and critical restoration needs
 - Requesting supplemental energy assets for assisting response efforts while restoration of primary systems is established
3. Coordinate the dissemination of public information related to water system and utility restoration, which includes the following:
 - Providing public information on the duration of service interruptions/shortages, the progress of restoration efforts, and public assistance guidelines while restoration activities are occurring

Based on the scope of the event, the WUG Coordinator may designate or assume additional roles as a Municipal or Non-Municipal Unit Leader. These leaders are subject matter experts from the PUC whose roles are as follows:

Municipal Unit Leader (Public):

- Receives information from the four municipal divisions on actual or potential damage to water systems or wastewater supply, distribution, and collection
- Identifies resources and assets to supplement specific municipal division priorities and critical restoration operations

Non-Municipal Unit Leader (Private):

- Liaises with outside agencies such as AT&T, Comcast, and PG&E
- Receives information from non-municipal providers; investor-owned utilities; electric service, natural gas, oil, and fuel pipelines; and telecommunications, Internet, and cable



TV and satellite service on actual or potential damage to water or energy supply and distribution

- Supplies information to affected non-municipal water system and utilities providers on EOC response actions related to their operations
- Identifies resources and assets to supplement specific non-municipal provider priorities and critical restoration operations

2.1.3 Supporting Roles

In addition to the response functions established by the EOC Operations and Planning Sections, ESF #12 is supported by the following CCSF departments:

- Department of Building Inspection (DBI)
- Department of Emergency Management (DEM)
- Department of Parking and Traffic (DPT)
- Department of Public Works (DPW)
- Department of Technology (DT)

Situation status reports and requests will be provided to each supporting department so that priorities to re-establish water system and/or essential utility services can be determined on a citywide basis. Monitoring information; obtaining, deploying and tracking local, and Operational Area resources; and assessing restoration progress will be a combined effort between PUC and supporting departments. Each supporting department maintains its authority and is responsible for resource availability and providing personnel, equipment, facilities, technical assistance, and other support roles as required.

2.1.4 Energy Industry Coordination

Energy industry coordination requires the maximum use of resources, aids emergency response, implements recovery operations, and restores water and utilities to the affected area to pre-event conditions.

During an event, the PUC WUG Coordinator is the primary point of contact with the energy industry for information sharing and handling emergency requests for assistance from private and public sector owners and operators. Facility owners are responsible for the actual restoration of normal operations at water and utilities (energy) facilities. Energy facilities will provide technical expertise, and supporting agencies will assist them with energy restoration efforts.

The types of water system and utility facilities are listed in Table 2-1 below.



Water/Sewer	<ul style="list-style-type: none"> Publicly owned utilities (POUs) or investor owned utilities (IOUs) Regulated by the Regional Water Quality Board
Electric	<ul style="list-style-type: none"> Includes publicly owned Load Serving Entities or Electric Service Providers (ESPs) Regulated by the California PUC
Natural Gas	<ul style="list-style-type: none"> Commercial and residential distribution providers Regulated by the California PUC
Petroleum Products	<ul style="list-style-type: none"> Liquid propane gas and crude oil pipeline vendors
Commercial Communications	<ul style="list-style-type: none"> Include telecommunication services and commercial toll lines, cellular and satellite systems, and Internet Service Providers (ISPs) Regulated by the California PUC

Table 2-1: Types of Water and Utilities

2.1.5 Tagging/Approval of Electrical and Gas Industry Connection

A tag, or an “E-Tag,” as it is referred to, is the electronic computer documentation of an energy transaction that requires coordination of and approval from all operating entities involved. Supporting departments in the Infrastructure Branch have no direct responsibilities to regulate or monitor E-Tag activity. However, Federal or State regulatory agencies alerted by E-Tag processes may contact the EOC during an event to notify authorities of potential energy events or supply additional ESF #12 resources to the EOC based on the extent of the energy emergency. Because of the shared power grid and natural pipeline distribution in the Western California Region, this coordination is essential.

2.1.6 Information Flow

The following describes the flow of information within the EOC, Infrastructure Branch, and between the WUG Coordinator, Unit Leaders, and various support agencies:

Operations Support Section Chief and Infrastructure Branch Coordinator

- Exchange information regarding water system and utility issues, support operations, requests, and situation status reports
- Consult with WUG Coordinator to provide resources (equipment and personnel) for restoration of water system and public utility services and infrastructure operations
- Coordinate the release of water system and utility restoration public information from the EOC to the general public

Water and Utilities Group Coordinator

- Gather information from Municipal and Non-Municipal Unit Leaders
- Coordinate and analyze water systems and utility status information to update the Infrastructure Branch Coordinator



- Procure resources and assets from the Logistics Section upon approval from the Infrastructure Branch Coordinator and or the Operations Support Section Chief
- Request water system and utility operations support from the Infrastructure Branch
- Receive continuous water system and utility service interruption and progress reports and requests from the Infrastructure Branch and related DOCs
- Provide public information updates to the EOC Public Information Officer (PIO)

Municipal Unit Leader (Public)

- Contact Municipal Public Utility Divisions to collect information and requests from Water and Wastewater Division Managers
- Provide municipal operation water system and utility status reports to the WUG Coordinator and Non-Municipal Unit Leader
- Provide coordination between municipal water system public utilities and the WUG Coordinator during large-scale events

Non-Municipal Unit Leader (Private)

- Contact non-municipal utilities (IOUs; ESPs; telecommunications, natural gas, cable, and satellite providers; ISPs) to collect information and requests from water system and utility providers
- Provide non-municipal water system and utility status reports to the WUG Coordinator and Municipal Unit Leader
- Provide coordination between affected non-municipal utilities and the WUG Coordinator during large-scale events

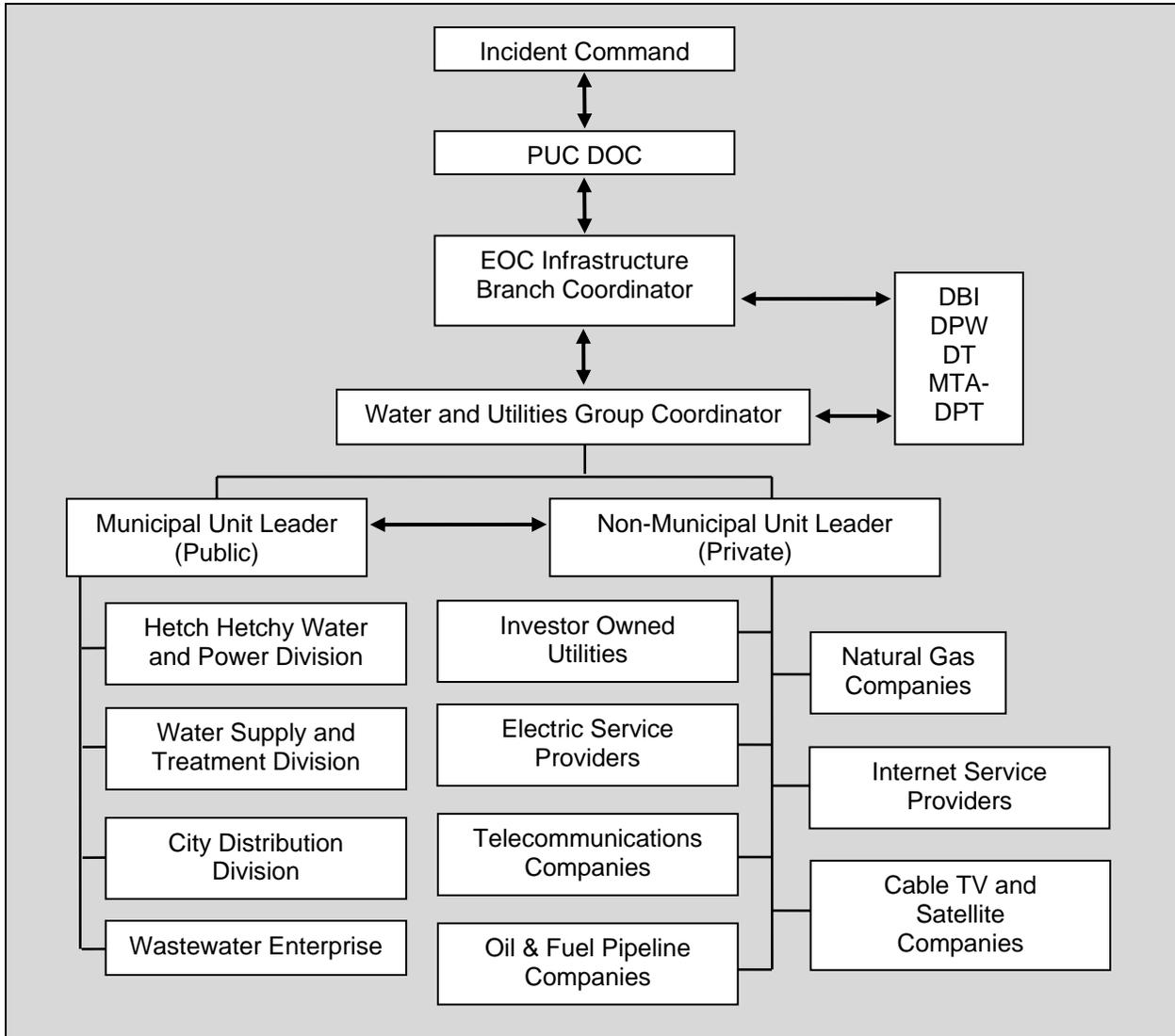


Figure 2-1: Water and Utilities Information Flow



2.2 Organization and Structure

2.2.1 Organization

CCSF has organized the ESF's in accordance with ICS to comply with the National Incident Management System (NIMS). ESF #12 is a part of the Operations Support Section, Infrastructure Branch under ICS.

Upon activation of ESF #12, the EOC Manager or Operations Support Section Chief notifies the PUC of the event. PUC is designated as a lead for ESF #12 operations. The WUG Coordinator facilitates conference calls; reports pertinent information to the Infrastructure Branch Coordinator supporting ESF agencies; and designates Unit Leader functions, as necessary. The PUC may be the Incident Commander for events exclusive to water system and utility issues for a simple type emergency. For complex types of emergencies, the EOC may serve as the central location for interagency support and coordination, including activities associated with ESF #12.

Supporting agencies (DBI, DPT, DPW, and DT) may assist the WUG Coordinator in the protection of water and utilities capabilities through the coordination of escorts, traffic control, debris removal, and restoration activities.

Participants in ESF #12 include, but are not limited to, IOUs, municipal owned utilities, rural electric cooperatives, private or non-profit response agencies, the California PUC, and the California Energy Commission.

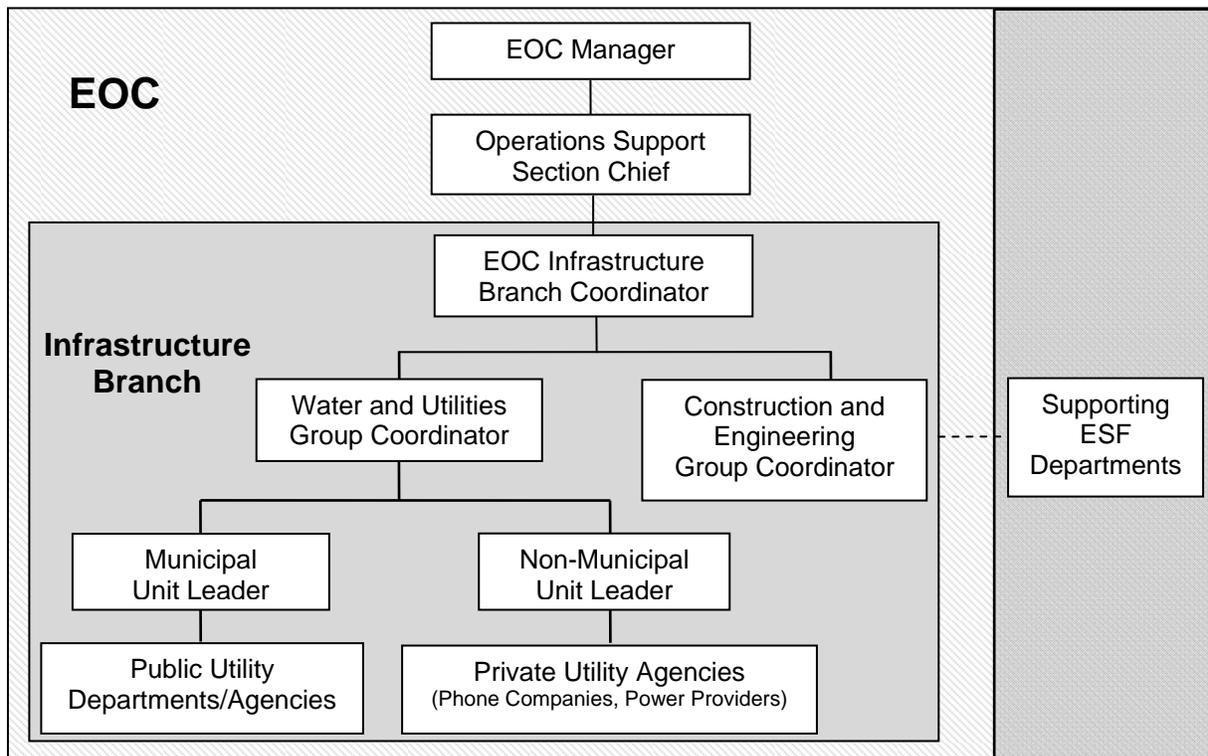


Figure 2-2: Water and Utilities EOC Organization



2.2.2 Participants and Functions

ESF #12's overall roles and responsibilities are outlined in Table 2-2.

Position	Responsibility
<p>PUC</p>	<ul style="list-style-type: none"> • Maintain or expedite restoration of normal service capability and capacity of the water system backbone • Coordinate or obtain resources to assist with restoration priorities of water and utility services • Collect information, monitor water and utility events, and exchange information between EOC and affected water and utility providers. • Provide appropriate staffing for Incident Command, DOC, Infrastructure Branch Coordinator, WUG Coordinator, Unit Leader, and/or support, as requested. • As the WUG Coordinator, provide situational awareness and prioritize recommendations concerning the recovery and restoration of the water, utility, and energy sectors supported by this ESF. • Forecast and identify material and equipment shortfalls. • Assist in the regulation of potable water services/supplies through the DPW and Department of Public Health (DPH) to promulgate potable water restriction use rule
<p>DBI</p>	<ul style="list-style-type: none"> • Support utility operations with structural inspectors and engineers from the Building Inspection Division to conduct pre-occupancy inspections. • Accompany utility personnel into affected buildings after an emergency. • Identify and mitigate safety issues related to utilities and water prior to environmental inspections.
<p>DPW</p>	<ul style="list-style-type: none"> • Make repairs to damaged sewer lines through the Bureau of Street and Sewer Repair. • Provide engineering support services. • Secure permits for temporary overhead utility facilities (e.g., poles, wires). • Assist in the restoration of potable water services/supplies through the PUC and DPH. • Coordinate locating and marking for all proposed digging. • Coordinate excavation work that may affect underground utilities and traffic signal cables and connections.
<p>DT</p>	<ul style="list-style-type: none"> • Staff the 24-hour hotline to dispatch staff and log emergency calls. • Provide Local Area Network and Wide Area Network support. • Coordinate with DEM and the GIS Unit Leader to develop maps showing outages and water/utility failure locations.



Position	Responsibility
MTA – DPT	<ul style="list-style-type: none"> • Manage traffic control without traffic signal operations and repair signals. • Mitigate traffic congestion throughout the city. • Manage the removal of hazards associated with abandoned vehicles.
Public and Privately Owned Energy Providers	<ul style="list-style-type: none"> • Provide background, technical, and/or scientific information and/or subject matter experts. • Provide situation status updates on outages, shortages, energy disruptions, and restoration operations. • Liaison with the EOCs.
Non-Governmental Organizations²	<ul style="list-style-type: none"> • Provide subject matter experts to assist in assessing water/utility impacts. • Prepare disaster response efforts and public disaster assistance resources based on known or estimated available water/utility operations. • Assist with response efforts. • Relay information to stakeholders.
Water and Utilities Group Coordinator³	<ul style="list-style-type: none"> • Delegate operational utility and water response to the Unit Leader, as necessary. • Coordinate efforts between the PUC and the Infrastructure Branch in the EOC. • Establish priorities and staffing for short- and long-term operational periods. • Serve as the utility liaison to Federal, State, and/or regional government entities, as requested.
Municipal and Non-Municipal Unit Leaders⁴	<ul style="list-style-type: none"> • In coordination with WUG Coordinator, identify water system and utility issues within municipal jurisdictions. • Mobilize/demobilize water system and utility operational support.

Table 2-2: Water and Utilities Participants and EOC Functions

² Any non-governmental entity to include non-profit organizations and the private sector

³ EOC Infrastructure Branch Position

⁴ EOC Infrastructure Branch, Water and Utilities Group Position



2.3 Notification and Activation

2.3.1 Notification

Initially, the DEM Duty Officer, DEM Division of Emergency Communications (DEC), or 311 notifies the PUC of a water system or utility event and of an EOC activation. Alternately, if the PUC receives a call first from an affected water system or utility company, the PUC representative contacts the DEM Duty Officer to determine the need for ESF #12 activation.

The PUC assumes or assigns a WUG Coordinator who will report to a designated office, DOC, or EOC to assist with ESF #12 activities. This is typically accomplished by radio broadcast, digital pager, or telephone contact. Depending on the type of emergency situation, the WUG Coordinator may function as Lead or request additional staffing to coordinate ESF #12 activities. The Infrastructure Branch Coordinator or WUG Coordinator, responsible for ESF #12, designates the Municipal Unit Leader and Non-Municipal Unit Leader, if staffing permits.

Notification to support agencies can be communicated via phone, e-mail, or AlertSF, and will provide a situation update and reporting instructions prior to arrival at the EOC. The WUG Coordinator maintains a current list of Unit Leaders with 24-hour contact information for emergency response.

2.3.2 Activation

ESF #12 may be activated by the DEM Duty Officer, PUC, or EOC Manager when a water system or utility event is anticipated or actually occurring in San Francisco. The scope and type of the emergency/response will be determined at the time of activation. Elements of ESF #12 activation may begin prior to an official notification from the DEM Duty Officer, PUC, or EOC Manager when PUC is alerted to a planned or unplanned event through a water system or utility provider that requests resources and assets based on mutual aid agreements. If this occurs, notification to the DEM Duty Officer and/or DEM Director should be timely in order to provide situational awareness to the Mayor's Office.

Scalable Activation

ESF #12 operations can be expected to expand and contract based on the type of emergency, nature, and magnitude of the event. The type and level of activation is generally based on an event's resource or staffing requirements and the impact on the community. Activation of the ESF #12 Annex may be predicated on the following:

- Existing or potential electricity outages, scheduled brownouts, blackouts, or prolonged service disruption.
- Anticipated changes in water system, utility generation, or distribution capacity.
- Local and regional disasters affecting water system/utility generation, distribution, or storage facilities and operations.
- Events resulting in a significant or critical water system and/or utility service disruption.
- A sustained response effort.



ESF #12 may function in the: (1) PUC Office, (2) DOC, or (3) EOC.

Table 2-3 illustrates a scalable emergency response activation categorized by event type.

Emergency Situation	Examples	Coordinating Department	Placement of ESF #12 Staff
Planned Event (Simple)	Notification of a potential energy/water shortage; a scheduled utility outage	Public Utilities Commission	<ul style="list-style-type: none"> • PUC Office • DOC
Planned Event (Complex)	Situation escalates to critical, resulting in supply and pricing impacts, pulling in multiple ESFs and EOC activation	Public Utilities Commission; Department of Emergency Management; Mayor's Office	<ul style="list-style-type: none"> • PUC Office • DOC • EOC
Unplanned Event (Simple)	Notification of an actual water/energy shortage, system disruption, etc.	Public Utilities Commission	<ul style="list-style-type: none"> • PUC Office • DOC
Unplanned Event (Complex)	Notification of a large-scale actual energy/water shortage; system disruption involving multiple ESFs and EOC activation	Public Utilities Commission; Department of Emergency Management; Mayor's Office	<ul style="list-style-type: none"> • PUC Office • DOC • EOC

Table 2-3: Scalable Water and Utilities Activation

2.3.3 Response Actions

Informing infrastructure support agencies, required governmental entities, stakeholders, and the public during an event is a six-step process:

Step 1: Gather Information

Information is collected from the infrastructure community, and from the following groups, to provide current status updates on infrastructure operations throughout the city:

- Responding departments
- Public and elected officials (via phone calls)
- NGOs, non-profit organizations, private sector (utilities)
- Media (via broadcast, web information, blogs, print)
- Response personnel (responding to down electrical wires, broken pipes, fires, etc.)
- State and Federal agencies, as appropriate (e.g., DT, the Federal Emergency Management Agency [FEMA], California PUC)



Step 2: Verify and Organize Information

Verification of collected information should be confirmed after identifying corresponding utilities' status reports and determining the impact of the affected area

- Secure a point of contact at each utility or infrastructure agency for situational updates
- Confirm affected areas through reports from dispatched emergency units and utility company command centers
 - Obtain preliminary infrastructure damage assessments
 - Create a cursory outage/damage footprint on maps or computer software based on assessments

Step 3: Coordinate and Analyze Information (Initial Actions)

Analysis includes, but is not limited to, the following:

- Conducting an assessment of the situation based on current information
- Determining the impact of the event on San Francisco
- Identifying critical water system and utility needs in affected communities
- Identifying and recommending government actions necessary to assist water system and utility providers in restoring damaged systems and preventing disruptions in service
- Receiving and responding to information requests from municipal and non-municipal water system and utility providers

Step 4: Obtain Resources, Release of Public Information

- Request resources through the DOC, EOC, and supporting ESF #12 departments, to deploy to the field during an event
- Disseminate emergency information and guidance to the public, private, and government organizations. All press releases are to be coordinated through the CCSF PIO. If proprietary information is received from affected public or privately owned facilities, legal counsel should be consulted prior to disseminating a press release
- Initial public information includes, but not be limited to, the following:
 - Damage assessment and estimated/anticipated duration
 - Actions the water system and utility providers are taking
 - Actions businesses, industries, and residents should take
 - A summary of the event
 - Overall steps to be taken by the government and citizens to return to normal operation after the event

Step 5: Continue to Monitor, Track, and Inform (Continuing Actions)

- Serve as the point of contact for post-event damage reports to supply, distribution, and collection systems
- Conduct Planning Section meetings and provide situation updates, as necessary



- Notify and consult with subject matter experts from Federal, State, regional, and local authorities on priorities for water system and utility restoration processes, assistance, and supply
- Secure resources (e.g., fuel for transportation, natural gas services, generators, technical support, potable water, and communications) for requested emergency operations
- Recommend actions to jurisdictions regarding the conservation of water, utility, electricity, and natural gas resources
- Coordinate the collection and reporting of water and utility information to the public through DEM's PIO and/or Joint Information Center (JIC)

Step 6: Resources and Assets (External)

- Coordinate the deployment of resources as necessary to support emergency water system and utility restoration operations

2.3.4 Logistical Considerations

Location	Minimal Resources, Equipment, and Supplies
<p>PUC Office or DOC</p>	<ul style="list-style-type: none"> • Plans, Procedures, and Checklists: <ul style="list-style-type: none"> - CCSF Emergency Response Plan (ERP) - Water and Utility Checklist - Water/Utility Contact List - Resources and Assets List • Equipment and Supplies <ul style="list-style-type: none"> - Basic office supplies (paper, pens, pencils, markers, etc.) - Copies of relevant logs and forms (e.g., ICS forms) - Maps - Laptop computers, accessories, software, Internet access, external/portable hard drives, power cord, additional batteries - Printer and fax machine - Alternate power source - Communication equipment (e.g., landline, cellular, satellite phones, radio, pager) - Communication equipment battery chargers • Personal identification or emergency credentials • Identifying vests (if applicable) • Staffing (for sufficient DOC position and support staff)



Location	Minimal Resources, Equipment, and Supplies
EOC	<ul style="list-style-type: none"> • Plans, Procedures, and Checklists: <ul style="list-style-type: none"> - CCSF ERP - Water and Utility Checklist - Water/Utility Contact List - Resources and Assets List • Equipment and Supplies <ul style="list-style-type: none"> - Multiple work stations to accommodate all functional positions - Basic office supplies (paper, pens, pencils, markers, etc.) - Copies of relevant logs and forms (e.g., ICS forms) - Maps - Computers, accessories, blank disks, software, Internet access, external/portable hard drives, power cords for each work station - Printer, toner, ink cartridges for each work station - Back-up power source - Dedicated phone and Mayor's Emergency Telecommunications System (METS) lines - Communication equipment (e.g., landlines, cellular phone, radio, pager) - Portable or stationary communications and chargers or back-up power sources - Alternate communications capabilities (e.g., handheld amateur radio, satellite phone)

Table 2-4: Logistical Considerations

Additional resources and assets needed to support operations are addressed in the SOPs developed by the WUG Coordinator.

2.3.5 Deactivation /Stand Down Operations

The deactivation of ESF #12 may extend deep into the recovery phase and may involve a transfer of responsibilities to Federal and/or State agencies. The deactivation of ESF #12 operations is coordinated through the PUC with the Infrastructure Branch Coordinator, supporting agencies, and Incident Commander. Once deactivation is announced, the PUC will do the following:

- Provide a plan for the demobilization of personnel and equipment to the Infrastructure Branch Coordinator and Operations Support Section Chief.
- Coordinate de-activation steps with the supporting departments/agencies.
- Prepare deactivation press release, when requested by the DEM PIO, which will include follow-up information.
- Provide deactivation information to all involved response departments and affected water system and utility points of contact.
- Assign or transfer long-term restoration assessment responsibilities to appropriate department(s).
- Ensure documentation is retained by the Documentation Unit in the Planning Section.
- Debrief staff and conduct an after action meeting.



Section 3: Planning Assumptions

The following planning assumptions for the *ESF #12: Water and Utilities Annex* apply:

- The public expects fundamental resources such as water, sewer, communication, electricity, and natural gas to be restored in a timely manner during an emergency.
- Communications and traffic signals may be hindered by power failures, which may affect public health and safety services, the deployment of resources, and/or the overall response to the disaster area.
- Disaster response and recovery may be limited by the inability of the public to be self-sufficient for more than three days without additional supplies of food, water, medical, and shelter resources. There may be response delays for services such as water/sewer and utilities due to damage to facilities and equipment, as well as shortages of personnel.
- Generating capacity may fall below customer demand.
- Water pressure systems may be low or zero, affecting health and safety facilities.
- Plan for staffing needs for each sequential operational period should be considered.
- Damage to water systems and utilities operated by CCSF may have an impact on related systems in the surrounding Bay Area region. Water system and utility supply problems can be intrastate, interstate, and national.
- Develop a plan for completing and collecting event related documentation (e.g., logs, time cards, press release forms).
- Logistical needs (e.g., equipment location, credentialing, power, parking, supplemental power resources and assets, modes of distribution) will be identified and addressed in an Incident Action Plan.
- The public expects water system and utility operation updates in order to prepare its families for short or extended water and/or utility events.
- During a water and utilities event that involves city-owned communications systems, restoration activities will be coordinated utilizing the *ESF #2: Communications Annex*. In the event that the EOC is activated, all communications functions will occur within the Communications Branch, which will maintain close coordination with the Infrastructure Branch.

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Appendix: List of Abbreviations and Acronyms

The following abbreviations and acronyms are used in this annex:

CCSF	City and County of San Francisco
DBI	Department of Building Inspection
DEC	Division of Emergency Communications
DEM	Department of Emergency Management
DOC	Departmental Operations Center
DOE	Department of Environment
DPH	Department of Public Health
DPW	Department of Public Works
DT	Department of Technology
EOC	Emergency Operations Center
ERP	Emergency Response Plan
ESF	Emergency Support Function
ESP	Electronic Service Provider
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
ICS	Incident Command System
IOU	Investor Owned Utility
ISP	Internet Service Provider
JIC	Joint Information Center
METS	Mayor's Emergency Telecommunications System
MTA – DPT	Municipal Transportation Authority – Department of Parking and Traffic
NIMS	National Incident Management System
NGO	Non-Governmental Organization
PIO	Public Information Officer
POU	Publicly Owned Utility
PUC	Public Utilities Commission
SOP	Standard Operating Procedure
WUG	Water and Utilities Group