

FINAL DRAFT TEMPLATE

Urban-Wildland Fire Coordination Plan for Water Utilities and Fire Departments

This template was developed as a resource for water utilities that provide service in urban areas that could potentially be threatened by wildland fires, these areas are otherwise known as the “urban wildland interface”. The concept of a coordination plan template was identified when the WEROC Operational Area Liaison and the Orange County Fire Authority Liaison recognized that the same coordination information was required from water utilities in both the Santiago Fire (October 2007) and the Freeway Complex Fire (November 2008). As a result, the Orange County Urban-Wildland Fire Coordination Task Force was established in January 2009 consisting of representatives from several water utilities, two fire departments, the Orange County Sheriff’s Department Emergency Management Bureau, and WEROC. The template includes the contribution of all participants’ lessons learned, best practices, and general operational observations.

The template is designed to be primarily used by a water utility to develop a water utility specific plan. However, due to the multi-jurisdictional nature of urban-wildland fires the utility’s plan should not be developed without the involvement and contribution of outside emergency response coordination partners. These partners should include but are not limited to the local fire department, cities served, and local law enforcement. WEROC will work with those water utilities that have an urban-wildland fire threat to facilitate this process and promote coordination. Once an agency specific plan has been developed, it should be shared with those coordination partners involved in the process.

I. RISK ASSESSMENT

An agency’s Hazard Mitigation Plan may be helpful in developing this area. It was also recommended that the water utilities work with their local fire department to do an initial and annual assessment of their facilities within the urban-wildland interface.

- a. Probability and Threat Area**
- b. Issues and Concerns within Threat Area**
- c. Mitigation Actions**
 - i. Weed Abatement/Fuel Modification Plan
 - ii. Structural Assessment and Improvement Plan (e.g. sprinklers, roof eaves, doors, etc.)
 - iii. Equipment Needed (e.g. additional generators)
- d. Water Issues**
 - i. Supply/Availability
 - ii. Operational Concerns (e.g. known areas of minimal pressure)

II. RED FLAG POLICY

A Red Flag Policy is to provide staff with set trigger points at which they will take certain actions in order to prepare for the potential of a fire. Each agency should review the 3 levels of fire awareness and determine what preparedness actions

would make the best sense for them. Ideally the level of preparedness and actions taken should increase as the threat increases.

a. Activation/Trigger Points

Water utilities should identify potential trigger points for when their “Red Flag Policy” would be in affect, and possibly determine different levels of heightened fire awareness related activities. The potential concepts a water utility may want to consider as their trigger points are: fire season, red flag watch, and red flag warning. These are fire notification concepts that are identified by the National Oceanic and Atmospheric (NOAA) when certain conditions exist that may lead to a wildland fires.

i. Criteria

1. Fire Season
2. Red Flag Watch
 - a. A Fire Weather Watch may be issued prior to the Red Flag Warning.
3. Red Flag Warning
 - a. Definition - Red Flag Warning - A term used by fire-weather forecasters to call attention to limited weather conditions of particular importance that may result in extreme burning conditions. It is issued when it is an on-going event or the fire weather forecaster has a high degree of confidence that Red Flag criteria will occur within 24 hours of issuance. Red Flag criteria occurs whenever a geographical area has been in a dry spell for a week or two, or for a shorter period, if before spring green-up or after fall color, and the National Fire Danger Rating System (NFDRS) is high to extreme and the following forecast weather parameters are forecasted to be met:

i. sustained wind average 15 mph or greater

ii. relative humidity less than or equal to 25 percent and

iii. Temperature of greater than 75 degrees F.

ii. Notification

1. Emergency Digital Information System (EDIS)
2. WEROC Red Flag Warning Conference Call (write up will be provided)
3. Internal staff notification (e.g. color-coded flag at yard entrance)
4. External notification to coordination partners (Appendix A)

b. Operational Modifications

The following list of actions noted for each trigger point is identical. The list contains possible actions for all three categories, and the agency's plan should list all appropriate actions based on their judgment under each category. Some actions may coincide with only one trigger point, and may not be repeated in each level as indicated here. Additionally, some actions may only apply to operations in specific areas of the utility's entire service area.

i. Fire Season

1. Staffing Modifications

- a. Monitor fire and wind conditions
- b. Staff meeting or conference call
 - i. Fire conditions
 - ii. Safety procedures
 - iii. Changes in operations
 - iv. Current operational concerns (e.g. pump station out of service)

2. Top Off Reservoirs

- a. Percentage Total Capacity
- b. Period of time (e.g. June through October, or during the OCFA declared fire season)
- c. Water Quality Concerns in reservoir

3. Required Equipment: Tested, pre-positioned, fueled

- a. Generators
- b. Portable pumps
- c. Other

4. Pump Control Settings

5. Review weed abatement/ fuel modification at all facilities within/near wildland interface

6. Postpone preventative maintenance

ii. Red Flag Watch

1. Staffing Modifications

- a. Monitor fire and wind conditions
- b. Staff meeting or conference call
 - i. Fire conditions
 - ii. Safety procedures
 - iii. Changes in operations
 - iv. Current operational concerns (e.g. pump station out of service)

2. Top Off Reservoirs

- a. Percentage Total Capacity
- b. Period of time (e.g. June through October, or during the OCFA declared fire season)
- c. Water Quality Concerns in reservoir

3. Required Equipment: Tested, pre-positioned, fueled

- a. Generators

- b. Portable pumps
 - c. Other
 - 4. Pump Control Settings
 - 5. Review weed abatement/ fuel modification at all facilities within/near wildland interface
 - 6. Postpone preventative maintenance
- iii. Red Flag Warning
 - 1. Staffing Modifications
 - a. Monitor fire and wind conditions
 - b. Staff meeting or conference call
 - i. Fire conditions
 - ii. Safety procedures
 - iii. Changes in operations
 - iv. Current operational concerns (e.g. pump station out of service)
 - 2. Top Off Reservoirs
 - a. Percentage Total Capacity
 - b. Period of time (e.g. June through October, or during the OCFA declared fire season)
 - c. Water Quality Concerns in reservoir
 - 3. Required Equipment: Tested, pre-positioned, fueled
 - a. Generators
 - b. Portable pumps
 - c. Other
 - 4. Pump Control Settings
 - 5. Review weed abatement/ fuel modification at all facilities within/near wildland interface
 - 6. Postpone preventative maintenance

III. RESPONSE CONSIDERATIONS

a. Activation

- i. Utility (This should be an internal policy on activation and staffing during a fire event within the utility's service area.)
 - 1. Utility EOC
 - 2. Utility Liaisons (e.g. a utility staff reporting to a city served that is impacted by the fire)
- ii. WEROC (write up will be provided for this section)
 - 1. Activation Policy
 - 2. Water Incident Command Post Liaison
 - a. Incident Command Board (a field resource that WEROC can provide to utility staff at the Incident Command Post)

b. Water

- i. Supply
 - 1. Non-potable water hydrants/reservoirs
 - 2. Emergency Interties

3. Additional water flow from MET/supplier
 4. Identify preferred reservoirs and timeframes for fire tanker refill (both airborne and land-based tankers)
- ii. Pressure
 1. Capability of Pressure Zones
 - a. Fire Flow before start to lose pressure within an individual zone or street.
 - b. Run a model for minutes of fire flow within individual reservoirs
 - c. Isolated zones or areas of low capacity (map)
 2. Increasing Pressure
 - a. Methods
 - b. Equipment needed to accomplish
 - c. Placement of equipment
 - d. Hydrant Information
 3. Loss of Pressure
 - a. Notification to Incident Command Post and WEROC
 - b. Water Quality Notices
 4. Fire Department Training
 - a. Closing “empty” hydrants
 - b. Closing valves at properties that have significant damage
- c. Operating within the Impact Area**
- i. Access
 1. Appropriate Identification (vehicle, clothing, badges)
 2. Coordination and communication with WEROC
 - ii. Fire Awareness & Safety Training
 - iii. Utility policy on staff operating within the impacted area
 - iv. Required personal protective equipment
- d. Critical Facilities**
- This section should be a comprehensive list of critical facilities that are in or adjacent to, wildland areas and may be at risk during these types of fires. Each facility should include a quick analysis of how a loss of the facility can impact operations and alternate operational plans. For example, “Loss of wastewater lift station power will result in sewage backflow in the 900 block of Regency Park in 3 hours.”
- i. Communications/Telemetry (map)
 - ii. Power (map)
 - iii. Pressure (map)
 - iv. Facilities with 24-hour staffing (map)
- e. Equipment**
- i. Staging locations (map)
 - ii. Available
 - iii. Required
 - iv. Refueling plan

1. Indicate availability of fuel stations at facilities for other responders

APPENDIX A – CONTACT LIST

This is meant to be a comprehensive list; the contacts required will depend on each utility.

- a. Utility Contacts**
 - i. General Manager
 - ii. Emergency Manager
 - iii. Public Information Officer
- b. Fire Department Contacts**
 - i. Shift Captains
- c. City Contacts**
 - i. City Manager
 - ii. Emergency Manager
 - iii. Public Information Officer
- d. Law Enforcement Contacts**
 - i. Duty Officers
 - ii. Public Information Officer
- e. WEROC Contacts**
 - i. On-Call Information
 - ii. Emergency Operations Centers
- f. Operational Area Contacts**
 - i. On-Call Information
 - ii. Emergency Operations Center – WEROC Desk
- g. California Department of Public Health**
 - i. On-Call Information
 - ii. Orange County Office

APPENDIX B – MAPS

Some of these items may be displayed on the same map. This is simply a list of identified concepts that should be mapped. The maps should be very simple, no more than what can fit into a 2-inch binder, color coded, and broken down by areas.

- a. Reservoirs**
- b. Water pressure zones**
 - i. Isolated areas or areas of low capacity
- c. “Drop Back Points”** – If water pressure is lost in a certain zone, where should fire crews reposition to regain water pressure.
- d. Identify preferred reservoirs and timeframes for fire tanker refill**
- e. Critical infrastructure that needs protection**
 - i. Communications/Telemetry
 - ii. Power
 - iii. Pressure
 - iv. Facilities with 24-hour staffing
- f. Residential pools – liability?**
- g. Equipment staging locations**

h. Hydrants

- i. Hydrants Markings Key
(There was discussion about creating an Orange County standard for this concept that included the use of color coded symbols that indicate certain features of the hydrant, based on NFPA standards.)

Source: Kelly Hubbard, Emergency Services Manager, Municipal Water District of Orange County