JPIA
Commitment to Excellence Program
Best Practices

Loss Reduction Focus Menus
and
Explanations

ACWA JPIA

YOUR BEST PROTECTION

JPIA COMMITMENT TO EXCELLENCE (C2E)
BEST PRACTICES GUIDE

This guide includes the "*loss reduction focus*" areas for each of the C2E loss categories:

- **Vehicle Operations**
- **Construction**
- **Infrastructure**
- **Employment Practices**
- **Ergonomics/Falls**
- **Wildfire Prevention**

A "*menu*" indicating the best practices for each focus area is included and an explanation for each best practice. JPIA members are encouraged to select from the menu the best practices they wish to add to or use to enhance their existing loss reduction programs.

JPIA Risk Management visits will concentrate on supporting an organization in its implementation of the C2E best practices. While adopting specific best practices may be recommended during these visits, the JPIA encourages members to review the C2E best practices, reinforce the practices they have already incorporated, and adopt as many of the other practices as practical. The JPIA can provide resources and training to help members in this process.

Questions concerning the C2E Best Practices Guide should be addressed to the organization's JPIA Risk Management Consultant. Additional assistance may be obtained by contacting the Risk Management staff at (800) 231-5742.

ACWA JPIA
YOUR BEST PROTECTION

JPIA
Commitment to Excellence Program
Best Practices

Vehicle Program

ACWA JPIA
YOUR BEST PROTECTION

VEHICLE PROGRAM BEST PRACTICES

Loss Reduction Focus	Best Practices Menu
Driver Review/Qualification	☐ Applicable for all positions ☐ Copy of DMV Report (pre-hire) ☐ Driver record point standard ☐ Pull Notice Program used ☐ Ride-along (test, re-test, post accident)
Defensive Driver Training	☐ Required for all ☐ Prior to driving assigned vehicle ☐ Within 60 days of hire and every 2 years ☐ Post accident tailgate/briefings
Accident Investigation Reporting	☐ Formal Accident Investigation and Report ☐ Corrective action taken and documented ☐ Formal management review (by GM) ☐ Investigation Report sent to JPIA ☐ Personnel action taken for at-fault incidents
Backing Accident Avoidance	☐ Formal written policy ☐ Employees acknowledge policy ☐ Non-compliance/at-fault discipline ☐ Periodic Program Review
Cell/Texting/Electronic Devices	☐ Policy acknowledged by drivers ☐ Cell/Texting/Electronic Policy exceeds state standards ☐ Disciplinary action for policy violation ☐ "E-Device" use reviewed following accidents
Safe Driver Award/Recognition	☐ Based on local milestones, improvements, achievements ☐ Annual award recognition by the board ☐ Award pin, certificate, plaque, etc.

VEHICLE PROGRAM "BEST PRACTICES"

The following elements define the Vehicle Program "Best Practices":

DRIVER REVIEW/QUALIFICATION PROGRAM

- **Applicable for All Positions**
  Explanation: Includes all employees, volunteers and directors who drive company vehicles or personal vehicles for Agency business.

- **Pull Notice Program Used**
  Explanation: This is the Department of Motor Vehicles (DMV) Employer Pull Notice Program. It is a free service for Public Entities. Driver record information reports are generated every six months or immediately in the event of new activity (moving violation, accident, address change, etc.). There must be an employer/employee relationship and employees should drive regularly for the Agency. Directors are encouraged to provide their license information, but cannot be forced to under State Law.

- **Ride-Along (test, re-test, post accident)**
  Explanation: Conducted by a supervisor/manager for all new employees who will be driving regularly for Agency business. Re-tests will be conducted based on need and after an accident.

- **Driver Record Point Standard Greater than DMV**
  Explanation: Uses or exceeds the JPIA Model Driver Record Review Program to evaluate prospective and current drivers.

- **Copy of DMV Report (pre-hire)**
  Explanation: All new hires who will be driving for Agency business are required to provide a copy of their DMV Report Post Offer with hiring based on or exceeding the JPIA Model Driver Record Review Program.

DEFENSIVE DRIVER TRAINING

- **Defensive driver training required for all employees**
  Explanation: The agency promulgates a policy requiring all employees from the General Manager and below to attend defensive driver training. Training may be conducted in-house or through external providers (e.g., JPIA, TargetSolutions, etc).

- **Defensive driver training conducted within 60 days of hire and every two years**
  Explanation: Driver training is conducted within 60 days of employment and refresher training is required at least every two years.

- **Driver training conducted prior to driving assigned vehicle**
  Explanation: Employees receive training on operating specific assigned vehicle types prior to being released in unsupervised capacities. Training includes, but is not limited to, identification of blind spots, backing procedures, stopping distances, and trailer use, as applicable to the individual vehicle.

- **Post-accident briefings conducted for all employees**
  Explanation: All employees attend post-accident briefings wherein the causes and corrective actions are identified and discussed to prevent future similar occurrences.

ACCIDENT INVESTIGATION REPORTING

- **Formal Accident Investigation & Report**.
  Explanation: An accident investigation is conducted to determine the cause(s) of the vehicle mishap and a written report documents the investigation's findings and suggested corrective actions. This is accomplished for all vehicle mishaps.

- **Formal management review (by GM).**
  Explanation: The findings and proposed corrective actions are reviewed by the General Manager (GM), who validates and approves the corrective actions. The GM's review is documented.

- **Corrective actions taken & documented.**
  Explanation: Immediate actions to prevent similar accidents are taken. The completion of long-term actions is monitored through an established corrective action process. Corrective actions follow-up continues until actions have been completed. Corrective actions are documented.

- **Personnel corrective action taken for at-fault incidents.**
  Explanation: Employees determined to be "at fault" in an accident are held accountable through internal personnel actions.

- **Investigation Report sent JPIA.**
  Explanation: A copy of a Vehicle Accident Investigation Report is sent the JPIA so the findings and corrective actions can be reviewed.

BACKING ACCIDENT AVOIDANCE POLICY

- **Formal written policy**.
  Explanation: A formal written Backing Accident Avoidance policy is established to outline procedures and reduce the possibility of backing accidents. The policy must outline specific safe practices such as placing cones to create a "circle of safety" when vehicles are parked.

- **Employees acknowledge policy.**
  Explanation: The policy has GM approval and is endorsed by senior management. Employee will acknowledge policy in writing. New hire orientation and Defensive Driving training will include backing hazards.

- **Periodic program review.**
  Explanation: Included in the formal policy is a periodic review of backing accidents conducted by senior management. The review covers (as a minimum) the frequency of events, the results of backing accident investigations, corrective actions taken, and how "lessons learned" are communicated to agency personnel.

- **Non-compliance/at-fault discipline.**
  Explanation: The majority of "backing" accidents are considered to be "at fault". When an individual is determined by investigation to be "at fault", disciplinary action is to be taken. Action to be taken will be reviewed by management and supervisor(s).

CELLULAR PHONE/TEXTING/ELECTRONIC POLICY

o **Cell/Texting/Electronic Policy exceeds state standards.**
   Explanation: A prohibition on use of electronic communications and data devices goes beyond the state prohibition of hands-on cell use and texting. A superior-rated police will prohibit the use of all electronic devices while driving on District business.

   - This prohibition applies to hands free or hand held phones, radios, tablets, computers or other electronic devices.

o **Disciplinary action points for policy violations.**
   Explanation: Violations will result in points being assigned, per District's driver record review "Best Practices" and discipline policies.

o **Policy acknowledged by drivers.**
   Explanation: A policy acknowledgment from all personnel who drive on District business is signed and kept on file.

o **"Use" review following accidents.**
   Explanation: All vehicle accident and near miss investigations will determine if the use of cell phones, radios, texting, or other electronic devices was a component of the event.

SAFE DRIVER AWARD/RECOGNITION

o **Annual award recognition by the Board**
   Explanation: The District's Board of Directors and senior management demonstrate their interest in, and support for, safe vehicle operations through an annual recognition program.

o **Awards based on local milestones, improvements, achievements**
   Explanation: GM, HR, and Department Managers develop award "Best Practices" based on local vehicle operations. Recognition is given based on the achievement of established milestones and on actions taken to improve safe vehicle operations. Eligibility "Best Practices" is communicated to employees.

o **Awards**
   Explanation: Tangible safe drive awards (i.e. pins, certificates, plaques, etc.) are provided as appropriate.

JPIA
Commitment to Excellence Program
Best Practices

Construction Program

CONSTRUCTION PROGRAM BEST PRACTICES

Loss Reduction Focus	Best Practices Menu
USA/Line Location	☐ Marking Documentation ☐ Locator Qualification/Training ☐ Excavator Qualification Training ☐ Line GPS/Maps/Tracer Wire ☐ Using Damage Incident Reporting Tool (DIRT) Form ☐ USA Ticket Verification
Risk Transfer	☐ Program ☐ Responsible Person and Backup ☐ Insurance Coverage Equals Risk ☐ Pre-Qualification Packet (Process) ☐ Contracts ☐ Emergency Response Risk Transfer ☐ Tracking Risk Transfer Requirements ☐ Permit Coordination ☐ Document Retention
Contractor Qualification	☐ Pre-Qualification Packet/Program ☐ Insurance Requirements ☐ Reference Check ☐ Post-Project Evaluation ☐ Bid Writing/Loss Prevention Coordination ☐ Pre-Job Review
Third Party Exposures	☐ Acceptance of Project ☐ Site Control ☐ Site Documentation, Site Inspection (Pre/Post Construction Inspection) ☐ Contract Language/Responsible Party ☐ Multi-Employer Exposures ☐ Lighting, Warnings ☐ Asset Inspection ☐ Third Party Exposure Inspection
Traffic Control	☐ Template/Formal ☐ Encroachment Permit ☐ Controlling Agency Coordination ☐ Inspection Program ☐ Trained Personnel (Qualified Person) ☐ Equipment Storage

CONSTRUCTION PROGRAM "BEST PRACTICES"

The following elements define the Construction Program "Best Practices."

USA/UNDERGROUND LINE LOCATION

- **Marking Documentation**

  Explanation: As an excavator, you must contact Underground Service Alert (a.k.a. DigAlert/USA North/811) at least two (2) working days prior to beginning any digging or excavation work. The One Call Notification Centers that support all of California can be reached online or by phone (dial 8-1-1).

  Whether public, private, or commercial property, the law is clear that it is the excavator's responsibility to contact 811 before beginning work. It is critical that you accurately outline your excavation area. Please follow the delineation guidelines to ensure proper markings (color-coded paint, stakes, or flags) from the member utilities.

  Utilities have two (2) full working days to mark their lines. You may not perform any excavation during that time. It is a good practice, although not required, to have a record of your request (e.g. ticket number) at the job site. If you discover unmarked utility lines or accidentally damage one, your ticket number allows them to reference your location quickly and easily. In addition, it provides proof of compliance should a law officer or utility visit the job site.

  If you accidentally hit a line, you must notify the affected utility of the damage. You may contact 811 to report it, as well as get contact numbers for the utility. Follow this practice whether or not you see obvious damage, as there may be internal faults. If anything is released into the air, such as natural gas, move away from the area immediately and protect your work crew. Do not try to repair or slow the leak yourself. Call 9-1-1 right after clearing the area.

  Specific responsibilities for both excavators and underground line owners are established and enforced under Government Code 4216-4216.9. These responsibilities for excavators include:

  - Contact 8-1-1 and give at least two (2) full working days' notice prior to excavating.
  - Delineate (outline) their job in white paint
  - Hand expose to the point of no conflict within the tolerance zone

  The responsibilities for utilities (owners of underground lines) include:

  - Mark or locate their lines within two (2) full working days of the start of construction
  - Use the APWA Color Code to mark their facilities
  - Be accurate within 24-inches to either side of the buried facility (tolerance zone)

- **Locator Qualification Training**

  Explanation: Public Agencies shall establish Utility Locator Qualification Requirements per California Government Code 4216 and Cal/OSHA Section 1541.

  4216.3(a)(2) Only a qualified person shall perform subsurface installation locating activities.

  4216.3(a)((3) A qualified person performing subsurface installation locating activities on behalf of a sub-surface installation operator shall use a minimum of a single-frequency utility locating device, and shall have access to alternative sources for verification, if necessary.

"Qualified Person" as defined in Cal. Gov. Code 4216 definition (i)

(i) "Qualified person" means a person who completes a training program in accordance with the requirements of Title 8, California Code of Regulations, Section 1509, Injury Prevention Program, that meets the <u>minimum training guidelines and practices of Common Ground Alliance current Best Practices</u> (see below).

Cal/OSHA Title 8 Construction Safety Orders - Chapter 4, Subchapter 4, Article 6, Section 1541

§1541. General Requirements. (C) Only qualified persons shall perform subsurface installation locating activities, and all such activities shall be performed in accordance with this section and Government Code Sections 4216 through 4216.9. Persons who complete a training program in accordance with the requirements of Section 1509, Injury and Illness Prevention Program (IIPP), that meets the <u>minimum training guidelines and practices of the Common Ground Alliance</u> (CGA) Best Practices, Version 3.0, published March 2006, or the standards of the National Utility Locating Contractors Association (NULCA), Standard 101: Professional Competence Standards for Locating Technicians, 2001, First Edition, which is incorporated by reference, shall be deemed qualified for the purpose of this section.

<u>**Note:**</u> The NULCA Standard 101 and CGA Best Practices 4-5 minimum training standards for line locators are the exact same standard. The Common Ground Alliance (CGA) adopted the NULCA standard as a Best Practice.

o **Excavator Qualification Training**

Explanation: Public water agencies need to take special precautions by following best practices, and prepare defensive documentation that will help the machine operators and job-site foremen plan and execute an accident-free excavation. Those involved in and performing excavation activities to be trained per:

§1541. General Requirements. (D) Employees who are involved in the excavation operation and exposed to excavation operation hazards shall be trained in the excavator notification and excavation practices required by this section and Government Code Sections 4216 through 4216.9.

Best practices should include:

1. The District will communicate with the local One-Call Service Center **AND** utility owners who are not members of the one-call center. This communication must take place 2 working days, but not more than 14 days (per state regulations) prior to the start of the excavation.

2. The route of the excavation will be white lined (with white spray paint), flagged, staked, or a combination of these to mark the dig site before the locator arrives on the job.

3. The contractor's hand digs within 24 inches (per state regulations) horizontally on either side of the marked facility, adding the diameter of the utility if provided.

4. The district will request new locates (refresh marks) to again identify the underground facilities on all excavations incurring extended time requirements of 14 days or more and following inclement weather.

5. Photographs or videos are taken after the utility has been marked before the excavation begins.

In addition to the five best practices defined above, the following three best practices also apply to high priority underground facilities:

1. The District must request a pre-excavation meeting on-site with the facility owner and prime contractor (if any).

2. The District will pothole, hand dig, or use of air knives or vacuum excavation techniques to verify utility locates or mark-outs.

3. The District will record and map the coordinates of the locates in relation to a stationary object(s), such as a tree, fence, building, etc.

o **Underground Utilities Identified (GPS/Maps/Tracer Wire)**

   Explanation: A written specification should be established to locate all District owned buried lines. Tracer wire/Warning/identification tape should be installed to identify the location of underground utilities and to act as a warning against accidental excavation of buried utilities. Warning/identification tape shall be used on all underground water and recycled water mains, potable and recycled water irrigation systems, sewer mains, and all related appurtenances. Warning/identification tape shall also be used on cathodic protection wiring systems and tracer wire brought into and out of access ports.

o **"Damage Incident Reporting Tool" (DIRT) Usage**

   Explanation: The DIRT form allows users to submit damage and near-miss reports to ACWA/JPIA. The primary purpose of collecting underground facility damage data is to analyze data, to learn why events occur, and how corrective actions by utilities and excavators can prevent them in the future; thereby, ensuring the safety and protection of people and the infrastructure. Data collection will allow the ACWA/JPIA to identify root causes, perform trend analysis, and help educate all members so that damages can be reduced through effective best practices and safe work procedures.

o **USA Ticket Verification**

   Explanation: Any excavators doing any type of digging, excluding emergency work and homeowners working on their private property without the need for a permit or power equipment need to contact 811 two working days before starting work. A District must contact DigAlert before starting your excavation. A District (excavator) can obtain a USA ticket by either utilizing online services or by calling 811 to start a USA Ticket. Best Practices include:

   - **Wait the Required Time:** Legally, a district must wait for two (2) full working days for utilities to mark their underground facilities. They will mark the lines they own or maintain with stakes, flags, or paint in the appropriate color codes and/or advise the excavator of no conflict.

   - **Respect the Marks:** Please work to preserve facility marks for the duration of the job. If any of the markings become difficult to see, you must contact 811 and reference your ticket number to request re-marking by the affected member utilities. It is critical that your excavation site is still outlined in white so that your request can be properly addressed. Your ticket is valid for twenty-eight (28) calendar days from the date of its issuance-not when you first break ground. You must have an active ticket for the duration of your excavation.

   - **Dig with Care:** If you are digging within 24-inches of the outside diameter of the utility, you are required to utilize hand tools only. Any underground facilities that conflict with your excavation must be located with hand tools and protected before power equipment is used. If there is any damage, even a simple nick or cut to the facility, you must notify the affected utility of the damage, and you may contact 811 to report it as well as get contact numbers for the utility.

RISK TRANSFER

- **Risk Transfer Program**

  Explanation: Verify that the contractor has a commercial general liability insurance policy with a policy limit of at least $2,000,000 per occurrence and $4,000,000 aggregate. Verify that the contractor has a current workers' compensation insurance policy as required by the Labor Code, or is legally self-insured pursuant to Labor Code section 3700 et. seq.

- **Responsible Person and Backup Designated**

  Explanation: Personnel has been identified and trained to facilitate an agency's Risk Transfer Program in the absence of those designated with the primary responsibility.

- **Contracts for Routine Services**

  Explanation: An agency has assessed the liability risks potential associated with their routine vendors, contractors, and service providers, and has established contractual risk transfer agreements with those providers considered to have a loss risk potential warranting risk transfer.

- **Contracts for Emergency Services**

  Explanation: Following an assessment of an agency's critical systems, "service-as-required" risk transfer contracts have been established with the service providers needed to repair, supplementation, or replace a critical system during an emergency system loss. Established "service-as-required" risk transfer contracts must have a definite termination date.

- **Tracking Process for Risk Transfer Requirements**

  Explanation: Procedures have been established and personnel identified to ensure risk transfer contracts, proof of insurance, and additional insured endorsements are correct and current.

- **Permit Coordination**

  Explanation: In order to ensure the liability risk associated with a service provider's work rest with the provider and not the agency, obtaining work permits is the sole responsibility of the service provider.

- **Risk Transfer Document Retention**

  Explanation: To facilitate legal defenses during any future litigation, risk transfer contracts, proofs of insurance, and additional insured endorsements are retained for at least 10 years.

CONTRACTOR QUALIFICATION

- **Pre-Qualification Packet/Program**

  Explanation: Utilize the Model Pre-Qualification Questionnaire to evaluate prospective contractors developed by the Department of Industrial Relations

- **Insurance Requirements**

  Explanation: Verify the contractor has a commercial general liability insurance policy with a policy limit of at least $2,000,000 per occurrence and $4,000,000 aggregate. Verify that the contractor has a current workers' compensation insurance policy as required by the Labor Code, or is legally self-insured pursuant to Labor Code section 3700 et. seq.

- **Reference Check**

  Explanation: Contact the contractor's references for the six most recently completed public works projects, and the three largest completed private projects within the last three years.

- **Bid Writing/Loss Prevention Coordination**

  Explanation: Include the requirement that the contractor will provide a copy of their Injury and Illness Prevention Program. As applicable, request copies of the contractor's Trench and Shore Program, Traffic Control Program, Confined Space Program including a rescue plan, Electrical Safety Program including lockout/tagout, Asbestos Cement Pipe Program, and Hot Work Program. In addition, request documentation for employee certifications/licensing, i.e. OSHA 10, OSHA 30, Competent Person, welding, crane and crane operators, etc. Also, request copies of permits the contractor is required to obtain.

- **Pre-Job Review**

  Explanation: Review documentation for employee certifications/licensing and equipment certifications. Provide a pre-job review with the contractor to identify any hazards the contractor may encounter at your facility or installation. This would include confined space exposures, electrical exposures, work to be done by other contractors, etc.

- **Post-Project Evaluation**

  Explanation: At the conclusion of the project have a debriefing with the contractor to discuss:

  - What went well?
  - What didn't go well?
  - Why did things happen?
  - What will they do differently and better next time?
  - How this information can be used?

THIRD-PARTY EXPOSURES

TRAFFIC CONTROL

o **Formal Templates Developed**

Explanation: Layouts based on "best practices" as found in the CA-MUTCD and actual conditions.

o **Encroachment Permits Obtained**

Explanation: The contractor obtains encroachment permits from controlling authority prior to the start of work.

o **Controlling Agency Coordination**

Explanation: Traffic control activities are coordinated with controlling authority to avoid overlapping or redundant activities.

o **Inspection Program**

Explanation: During the duration of the work, the site will be subject to daily inspections to ensure that the traffic control is being implemented according to the traffic control plan. Daily inspections shall be conducted and documented to ensure compliance with safety standards (e.g., CA-MUTCD) and best practices.

- Pre-work
- Post break
- Post lunch
- As conditions warrant
- Inspections and hazard corrections are documented.

o **Trained Personnel and Qualified Person**

Explanation: Flaggers shall be trained and qualified by the employer in the proper fundamentals of flagging before being assigned. The training shall be based on the MUTCD and worksite conditions.

- All workers are trained on how to work next to motor vehicle traffic in a way that minimizes their vulnerability. Workers having specific responsibilities should be trained in proper techniques, device usage, and placement.
- A competent person, designated by the employer and knowledgeable in traffic control principals, conducts a hazard assessment for the worksite and job classifications in the activity area; ensures proper setup, tear down, and repositioning of the work zone; and makes the selection of the appropriate class of high-visibility garments and devices.

o **Equipment Storage**

Explanation: Traffic control devices are serviceable and stored neatly. Devices are inspected before setup and after work is completed. Inspections are documented and deficiencies corrected. Substandard equipment is removed from service, tagged, and repaired or properly disposed of.

JPIA
Commitment to Excellence Program
Best Practices

Infrastructure Program

INFRASTRUCTURE PROGRAM BEST PRACTICES

Loss Reduction Focus	Best Practices Menu
WATER LINE FAILURE	☐ Asset Identification ☐ Valve Exercising/Flushing ☐ Preventive Maintenance ☐ H_2O Loss Monitoring ☐ Emergency Response
SEWER BACKUP	☐ Inspection – Liftstation/Pipe ☐ Inspections – Lift station ☐ Inspections – Entire Sewer System ☐ Lateral Responsibility ☐ Preventive Maintenance ☐ Asset Identification ☐ Emergency Response
CANAL FAILURE/FLOODING	☐ Rodent Control ☐ Operations ☐ Inspection/Maintenance ☐ Construction/Design ☐ Vegetation/Weed Control
THEFT / VANDALISM	☐ Security/Alarms/Cameras ☐ Equipment ID ☐ Fencing/Enclosures
FIRE	☐ Hotwork ☐ Controlled Burns ☐ Defensible Space
EQUIPMENT FAILURE	☐ Electric Surge ☐ Preventive Maintenance ☐ Animals/Insects/Bugs ☐ Lightning ☐ Backup Equipment ☐ Emergency Response

INFRASTRUCTURE PROGRAM "BEST PRACTICES"

The following elements define the Infrastructure Program "Best Practices":

WATER LINE FAILURE

- **Asset Identification**
  Explanation: In order to effectively maintain, provide emergency response, and mark for underground location, agency assets must be adequately located and identified. Methods of identification could include current and correct maps, signage, GPS coordinates, or computer generated locations.

- **Valve Exercising/Flushing**
  Explanation: To ensure proper water delivery and valve operation during normal and emergency operations, a valve exercising and line flushing program should be established. AWWA recommends a frequency of annual flushing and valve actuation.

- **Preventive Maintenance**
  Explanation: A preventive maintenance and/or repair and replacement program should be established for agency distribution pipelines, pumps, valves, etc. Documentation should be maintained providing records for potential warranty and insurance claims.

- **H_2O Loss Monitoring**
  Explanation: A process should be established to monitor and identify distribution system water loss. Documentation should be maintained providing records for potential insurance claims (landslide, subsidence, water intrusion, etc.).

- **Emergency Response**
  Explanation: Response procedures should provide the most rapid and effective response to infrastructure failures as possible, thereby protecting assets and reducing the value of potential claims.

SEWER BACKUP

- **Inspections – Lift-Stations**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Inspect lift stations at least weekly.
  - ✓ Pump out and clean wet wells semi-annually.
  - ✓ Check valves semi-annually.
  - ✓ Inspect floats quarterly.
  - ✓ Inspect warning lights and alarm systems weekly.
  - ✓ Install hour meters on each motor.
  - ✓ Maintain motor hours, dates, and maintenance performed in a logbook.
  - ✓ Take amp and vibration readings monthly for each motor.
  - ✓ Inspect electrical motor control equipment annually.
  - ✓ Visually check fuel level, battery, and general conditions of the emergency generator weekly.
  - ✓ Run the backup generator unload quarterly.
  - ✓ Monitor the lift stations 24/7 via remote notification system, such as a modem dialer, telemetry, or SCADA system.

- **Inspections – Entire Sewer System**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Inspect sewer system at least every 18 to 36 months.
  - ✓ Establish a FOG Program with all food service establishments (FSEs) including approval of grease control equipment (including location and size), establishing maintenance procedures for inspection and maintenance of FOG equipment, contracting with licensed and permitted grease handlers (including voucher program to track grease disposal methods), guaranteed "Right-to-Enter" for municipal agency inspectors, and accountability of FSEs for compliance through fines and fees for non-compliance with ordinance provisions.
  - ✓ Characterize "hot spots" by the cause of the operational problems (e.g., roots, FOG, structural issues).
  - ✓ Inspect "hot spots" more frequently based on customer service complaints, history of spills, or consulting engineering studies.
  - ✓ Establish a process for monitoring, documenting, and gauging inflows so lift stations and facilities have adequate staffing and monitoring during periods of heavy flow.
  - ✓ Visually monitor lines with TV cameras at least every 18 to 36 months.
  - ✓ Test sewer line connections during inspections and repair as necessary.
  - ✓ Clean sewer lines when there is evidence of impeded flow.
  - ✓ Establish procedures to avoid excess surge in downstream lines when line flushing or removing blockages.
  - ✓ Maintain a log, documenting when each line and manhole was inspected or repaired.

- **Laterals Responsibility**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Develop specifications for lateral installation.
  - ✓ Inspect laterals at the same time as main line inspections.
  - ✓ Establish responsibility for inspection and maintenance of customer's lateral from the building to the customer's property line.

- **Asset Identification**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Establish a GIS Mapping System for sewer system infrastructure, including X-Y coordinates and depth and elevation.
  - ✓ Identify type of pipe and age.
  - ✓ Establish Capital Improvement Program to repair or replace aging system components.

- **Emergency Response**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Establish Sanitary Sewer Reference and Emergency Contact List.
  - ✓ Identify and list all emergency cleanup or pumping equipment and where it is stored.
  - ✓ Establish storm system alert to assure flow can be handled.
  - ✓ Identify rapid response team for all sewer backups or sewer system breaches.
  - ✓ Identify Cleanup Contractors.

CANAL FAILURE / FLOODING

- **Rodent Control**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  Canal and levee breaches, overflows, and blockage result in flooding and property damage; resulting in major liability, water, and property losses. Rodent activity is the major cause. Control efforts may include:

  - ✓ Poison bait stations
  - ✓ Owl boxes
  - ✓ Trapping (with permits) of beavers or other large rodents
  - ✓ Regular reforming of canals/levees
  - ✓ Frequent inspections for rodent activity and canal/levee damage

- **Operations**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Certain adjustments in operations can reduce the risk of canal breaks or overflows, and minimize losses when they do occur.
  - ✓ Maintain lower water levels in canals to keep water away from upper part of canal where there is more rodent activity, and reduce losses when washouts do occur.
  - ✓ Maintain consistent levels in canals to prevent rodent activity in the upper portion of canal bank.
  - ✓ Improve communication and scheduling with landowners to prevent overflows.
  - ✓ Lock gates and turnouts to prevent tampering or unauthorized use.
  - ✓ Keep emergency response personnel and equipment available to respond in a timely manner.
  - ✓ Develop procedures and maintain equipment for road closure due to washouts.

- **Inspection Maintenance**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Regular and frequent inspections can identify problems, and identify canal sections in need of work during next maintenance season.
  - ✓ Perform and document inspections to discover problems before damage or loss occurs.
  - ✓ Perform inspections at the end of water season to indicate problems and set priority for maintenance.

- **Construction/Design**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  - ✓ Canal and levee design and construction can reduce the risks of canal breaks and overflow:
  - ✓ Use automated gates to maintain levels and reduce operator errors.
  - ✓ Use SCADA to monitor and control flow more effectively and detect blockages or washouts.
  - ✓ Use wide gradual sloped berms to reduce the effect of rodents, stabilize banks, and reduce damage by recreational activity.
  - ✓ Line earthen canals, especially problem areas to reduce washouts from erosion.
  - ✓ Reinforce berms/banks with heavy clay soil, and sides of banks with rip rap.
  - ✓ Design to allow easy all-weather access to canals or other critical areas.
  - ✓ Raise the sides of banks to reduce the possibility of overflow.
  - ✓ Use long crested weirs to stabilize fluctuations in water heights.

- **Vegetation/Weed Control**
  Explanation: The following would be considered when reviewing this element of the Infrastructure Program Best Practices:

  Control of weeds can reduce blockage and maintain water delivery as follows:

  - ✓ Control aquatic weeds to prevent waterway blockage or pump damage/plugging.
  - ✓ Use chains, draglines, or other automated means of weed removal.
  - ✓ Eliminate weeds on banks/levees that obscure visible damage to make problems more visible during inspections.
  - ✓ Eliminate weeds to reduce cover or food to lower the populations of burrowing rodents

THEFT / VANDALISM

Applies to physical security and protection of critical infrastructure for water distribution, wastewater collection, treatment systems, and canal systems. To effectively draft guidelines, a utility should first complete a Vulnerability Assessment (VA) of its system. This VA should be completed in accordance with a generally accepted methodology such as the Risk Assessment Methodology for Water (RAMWTM), the Vulnerability Self-Assessment Tool (VSAT TM), or other acceptable method.

- **Security/Alarms/Cameras**
  Explanation: Security systems should be established to deter a threat or detect and delay the threat, until the appropriate response force arrives. Security measures established should alert staff and protect the following:

  - ✓ System Structures and Critical Equipment
  - ✓ Water Quality Monitoring
  - ✓ Power and Wiring Systems

Security decisions should be site and utility specific, and the measures implemented may include one or more of the following:

  - ✓ Physical Security (gates and fencing)
  - ✓ Alarms Systems (local and monitored)
  - ✓ Closed Circuit Television (fixed cameras)
  - ✓ Supervisory Control and Data Acquisition (SCADA)

- **Equipment ID**
  Explanation: Marking leads to recovery of stolen property. Maintaining an up-to-date property schedule, recording equipment descriptions / serial numbers, marking equipment so that if stolen, it can be traced back to the owner. If thieves know it can be traced, the equipment often becomes a less desirable target. The primary objective is to make accurate information on insured equipment accessible to law enforcement, to significantly increase the recovery rate of stolen equipment.

  - ✓ In San Diego County, OAN numbers can be obtained from the Crime Prevention Unit, at the Vista Sheriff's Station at (760) 940-4564. They are coded by state and county and kept on file by law enforcement agencies throughout the county.
  - ✓ Businesses in Ventura County can apply for an Owner Applied Number by calling the Ventura County Sheriff's Department, Rural Crime Unit, at 805-477-7029 or 805-477-7000.

- **Fencing/Enclosures**
  Explanation: Site security, in conjunction with facility planning, design, and construction, is intended and should be installed, and maintained to do the following:

  - ✓ Prevent unauthorized entry or exit by employees or others.
  - ✓ Provide easy observation of any individual(s) entering or leaving the site.

  Methods for placement may include one or more of the following measures:

  - ✓ Perimeter fencing
  - ✓ Secured entrances and gates
  - ✓ Restricted access areas
  - ✓ Access Control Systems
  - ✓ Visitor Control / Escort Policies

FIRE

- **Hotwork**
  Explanation: Advanced planning and safe work procedures help prevent workplace fires caused by hot work operations (e.g., welding, cutting, grinding, etc). Whenever practicable, hot work operations should be performed in areas that are isolated and designated for such uses. Procedures should be implemented to protect life, health and property from fire and the products of combustion, which might result from the use of welding and cutting equipment, open flames and ignition sources. Following the procedures outlined in a Hot Work Permit system is of even greater importance when performing such work in areas not designed for open flames and sparks. These procedures should apply to Member agencies and contractors.

- **Controlled Burns**
  Explanation: Member agencies should consider and use a "Best Management Practice" for controlling weeds along ditch banks and canals, which is an alternative practice to open burning. Such practices may include the approved use of pesticides, mowing, or another open burn alternative. An agricultural burn permit may be issued by the local Air Pollution Control District after a determination is made that the alternative practices to open burning are infeasible for the site. Burning may be performed either by broadcast (in-situ) burning or by removing weeds from and piling adjacent to the bank if the materials are dry and stacked in a manner that promotes combustion. Prior to burning, weather conditions, smoke drift and

  density, traffic control, and fire control procedures should be considered and integrated into the burn planning process.

- **Controlling Agency Coordination**
  Explanation: Water utilities that have an urban-wildland fire threat should develop a water utility-specific emergency response coordination plan. The plan should be developed with the involvement and contribution of outside emergency response coordination partners including, but not limited to, local fire departments, cities / counties served, and local law enforcement. Once an agency specific plan has been developed, it should be shared with those coordination partners involved in the process.

- **Defensible Space**
  Explanation: Water utility infrastructure should be maintained with a "defensible space" to reduce the risk that fire will spread from the surroundings to the structures and provide firefighters access and a safer area to defend facilities. A primary goal is fuel elimination extending for at least 100 feet in all directions. A second concept of creating defensible space is "fuel reduction" whereby plants are selectively thinned and pruned to reduce the combustible fuel mass of the remaining plants to break up the more continuous and dense uninterrupted layer of vegetation. A third concept of defensible space is "fuel ladder" management where a typical separation is created of three times the height of the lower fuel to the next fuel ladder. Since wildfires burn faster uphill than on flat land, fuel ladder spacing may need to be greater for slopes.

EQUIPMENT FAILURE

- **Electric Surge**
  Explanation: Surge protective devices (SPD) protect electrical equipment against over-voltages caused by lightning. In addition to lightning, there are a number of other disturbances that can come in on the AC power lines and damage equipment**.**

- **Preventive Maintenance**
  Explanation: A preventive maintenance and/or repair and replacement program should be established for agency electrical transmission and distribution systems, main switchgear, sub-panels, pumps, and all electrical equipment. Documentation should be maintained providing records for potential warranty and insurance claims.

- **Animals/Insects/Bugs**
  Explanation: District employees are exposed to numerous unexpected dangers daily from animals, insects, and rodents. Different hazards are faced by those in specific regions and even different climates. Risks can range from an allergic reaction, bee sting, or rattlesnake bite.

- **Lightning**
  Explanation: The National Electrical Code (NEC) and CEC require certain grounding, bonding, and protection features that are intended to protect buildings and equipment against lightning damage.

- **Backup Equipment**
  Explanation: Establish an electrical emergency list, to identify all required equipment with location sites and a rapid response team.

- **Emergency Response**
  Explanation: Emergency response procedures should be established that provide the most rapid and effective response to electrical infrastructure failures as possible, thereby protecting assets and reducing the value of potential claims.

JPIA
Commitment to Excellence Program
Best Practices

Employment Practices Program

EMPLOYMENT PRACTICES BEST PRACTICES

Loss Reduction Focus	Best Practices Menu
Appropriate Documentation	☐ Up to date handbook/MOU ☐ Up to date job descriptions ☐ Regular performance appraisals are given ☐ Management procedures and policies in place
Effective Hiring	☐ Uniform hiring process ☐ Pre-employment checks on all hires ☐ Post-hiring process followed for all new staff
Promoting Staff Development	☐ Organization aligned to support staff development ☐ Supervisor specific training ☐ Job-specific training ☐ Sexual Harassment/Discrimination Prevention training ☐ Regular performance feedback
Utilizing Professional Resources	☐ Designated and trained Human Resources staff ☐ Labor specific counsel utilized ☐ Involvement in HR professional organization(s) ☐ JPIA resources utilized
Effective Communication	☐ All staff communication mechanism ☐ Routine management meetings ☐ Open door policy ☐ Internal complaint procedure ☐ Collaborative problem solving

EMPLOYMENT PRACTICES BEST PRACTICES

The following elements define the Employment Practices "Best Practices":

APPROPRIATE DOCUMENTATION:

- o **Up-To-Date Handbook**
  - **Explanation:** The handbook contains information about District policies and procedures. It should be developed and updated yearly with the help of labor counsel. The key elements of a handbook are mission statement(s), introduction to employment, payroll administration, employee benefits, employee relations, safety, discrimination and harassment prevention, and reporting, professional conduct, expense guidelines, office protocols, separation of employment, memorandum of understanding and at-will language (if appropriate). The handbook is the final "say" when questions arise in the workplace. The handbook should be reviewed with employees on a yearly basis and a signature page should be collected from each employee following the review.

- o **Up-To-Date Job Descriptions**
  - **Explanation:** A job description is developed for each position within the organization with input from employees. The purpose of the job description is to advise current and prospective employees as to what is expected in each job and to serve as a guideline for delivery of quality service. It is also the foundational document to determine pre-employment requirements and used as the basis for interactive discussions regarding job accommodation. The key elements of the job description are definition/summary of the position, essential job functions, other duties, job standards/specifications, typical physical duties, environmental factors, desirable qualifications, license and/or certificate requirements, and a signature line. The job descriptions should be reviewed with employees and revised yearly to reflect current job specifications.

- o **Regular performance appraisals are given.**
  - **Explanation:** Performance appraisals developed in alignment with job descriptions for all positions. When an employee is new to the position, the initial appraisal sets goals for the next 30, 60, and 90 days. The annual appraisal sets goals for the next year and reviews the progress on achievement of goals and objectives for the past year. The mid-term appraisal is six months after the annual appraisal and is used to check progress of achievement of goals and objectives, provide additional resources, and make course corrections. The feedback given is candid, honest, and with the true interest in the individual's success. The appraisal process includes the employee's acknowledgment on a signature page.

- o **Management Procedures and Policies in Place**
  - **Explanation:** The purpose of human resource procedures and policies are: to serve the organization; protect employees; and develop trustworthy relationships between management and staff. Some key elements of human resource procedures and policies are employee orientation to the organization; drug and alcohol policy; outside relations/media policy; injury and illness prevention

program; return to work program; electronic equipment usage and communication policy; sexual harassment prevention policy, procedures, and training; workplace violence policy; and interactive process/ADA policy.

Models of a handbook, various policies, procedures, sample job descriptions, and forms can be found on the ACWA JPIA's website https://www.acwajpia.com/human-resources/.

EFFECTIVE HIRING

- o **Uniform Hiring Process**
  - **Explanation:** As an "employer of choice" (a desirable place to work), a plan and budget must be set to attract the best-qualified applicants with the understanding that the process will take an investment of time. The beginning of the plan is updating or developing an ADA compliant job description outlining the candidate to be hired. The JPIA's Job Description Manual has complete details on the process including models for over 70 water district positions. An enticing, non-discriminatory ad is placed in appropriate websites with the goal of attracting a diversity of candidates. Resume review criteria is set for evaluators; ADA compliant applications required, and job-related testing for all positions conducted. Structured interview process and questions developed based on job description including situational and behavioral questions. Rating criteria is set in advance and reviewed to determine appropriate selections. A willingness exists to start over if the right candidate is not found.

- o **Pre-Employment Checks on All Hires**
  - **Explanation:** Background checks conducted for the selected candidate. Use of outside vendor for DMV, criminal, social security match, credit (when appropriate), etc. In-house staff (HR) or vendor contacts previous supervisors/employers (not references supplied) to obtain previous job history and performance. Consistent form or checklist used. Pre-employment physicals are conducted on all candidates offered a position; only safety-sensitive positions require drug testing.

- o **Post-Hiring Process Followed for All New Staff**
  - **Explanation:** Upon hire, a formal onboarding process is conducted to welcome new employees. Included are reviewing policies, procedures, and safety information; and introduction to staff; explanation of necessary paperwork; and the new employee is given the opportunity to ask questions. Managers determine training schedules and goals for 30, 60, and 90 days forward. Appointments are made to meet department managers and key staff to provide an overview of the organization. A hiring checklist is utilized to comply with the necessary requirements (I-9, DE-34, W-4, etc.). Manager checks in weekly with new staff; formal follow up discussions every 30 days.

Models of hiring procedures and checklists, along with sample job descriptions and forms can be found on the ACWA JPIA's website https://www.acwajpia.com/human-resources/.

STAFF DEVELOPMENT

- o **Organization Aligned to Support Staff Development**
    - **Explanation:** Senior management supports staff development as evident in allowing time to attend classes, conferences, webinars, etc.; senior management is role model by pursuing professional development themselves; staff development is stressed and permeates the culture of the organization which results in staff feeling valued and leads to better overall relationships, attitude, and engagement. Further training and additional alternatives are considered before a decision to terminate an employee based on performance.

- o **Supervisor Specific Training**
    - **Explanation:** Critical supervisor skills are present in all supervisors hired (communication, feedback, objectivity, invested in goals of the organization); supervisors not promoted from line staff position just because that job is well done; recognition that role of a supervisor requires additional/different skills for which specific training is provided.
    - New supervisors are given basic training (laws, district policies, dealing with staff, giving feedback).
    - Annual training to update all supervisors on laws, techniques, etc.
    - Supervisors trained on coaching and giving feedback (experienced managers train others).
    - Enrollment/completion in the JPIA Professional Development Program – Supervisor Basics.
    - Utilize JPIA Lending Library to provide specific training needs.
    - Supervisors required to discuss performance issues/actions with manager and HR prior to and following a conversation with the employee.

- o **Job Specific Training**
    - **Explanation:** All new employees experience comprehensive New Employee Onboarding process which introduces culture, expectations, physical plant, safety focus, and starts the employee's development from day one.
    - Provide regular training for job specific needs (JPIA, outside resources, Lending Library).
    - Each employee is required to take at least one non-required class per year.
    - Provide support for further development of skills (encourage professional development of employee's choosing).
    - Supervisors are held accountable for proper training of staff.
    - Provide development opportunities/career paths for succession planning.

- o **Sexual Harassment/Discrimination Prevention Training**
    - **Explanation:**
    - All personnel receive training on agency Sexual Harassment/Discrimination Prevention Policy
    - All staff receive Sexual Harassment Prevention Training every two (2) years; supervisor version and non-supervisor version.
    - Emphasis is placed on ensuring a "hostile workplace" does not exist.

- o **Regular Performance Feedback**
  - **Explanation:**
    - Annual performance appraisals (with quarterly check-in).
    - Supervisors confident in addressing performance issues; support with regular role plays, practice, coaching.
    - Supervisors provide regular positive feedback to all staff.
    - Supervisors held accountable to meet with each staff person at least bi-monthly for check-in.
    - Supervisors held accountable to solve employee performance issues.
    - Regular staff meetings held to acknowledge team performance and share challenges.

  Models of a handbook, various policies, procedures, sample performance appraisals, and forms can be found on the ACWA JPIA's website https://www.acwajpia.com/human-resources/. Also, information on JPIA Professional Certifications is available at https://www.acwajpia.com/training-2/

UTILIZING PROFESSIONAL RESOURCES

- o **Designated and Trained Human Resources Staff**
  - **Explanation:** There is a designated employee who is responsible for all Human Resource (HR) related tasks and identified as such throughout the organization. The HR designee has a professional certification through a national organization or local college. Examples are SHRM (Society for Human Resource Management): PHR (Professional in Human Resources), SPHR (Senior Professional in Human Resources) and CA (California specific). IPMA (International Public Management Association, all public entity): IPMA-HR (certified professional). HR specific training is current and ongoing.

- o **Labor Specific Counsel Utilized**
  - **Explanation:** Member has contact information and utilizes the services of an attorney or law firm that has a practice focus in Labor and Employment Law. It is recommended that the attorney or firm be a member of the California State Bar Labor and Employment Section.

- o **Involvement in Professional Organization(s)**
  - **Explanation:** Human Resource designee has or is in the process of obtaining the ACWA JPIA Human Resource Certification, which is specific to water agencies. In addition, the HR responsible employee belongs to professional and/or local organizations dedicated to providing ongoing HR training and updates, and subscribes to HR specific publications that provide regular guidance and updates.

- o **JPIA Resources Utilized**
    - - **Explanation:** Designee is familiar with the JPIA Employment Hotline. Designee participates in local HR training provided by the JPIA or other organizations.

    Information on JPIA Professional Certifications is available at
    www.acwajpia.com/Training.aspx.

EFFECTIVE COMMUNICATION

- o **All Staff Communication Mechanism**
    - - **Explanation:** Communication with staff at all levels is imperative to accomplishment of the organization's goals and objectives. A few examples of effective communication mechanisms are tailgate meetings; major project kickoff meetings; luncheon briefings on current topic or issue; monthly all staff question and answer meeting; employee newsletter and virtual briefings as needed.

- o **Routine Management Meetings**
    - - **Explanation:** Routine management meetings with staff are used to determine the current status of projects, whether or not additional resources are needed to complete the project, providing feedback to project members, administering course correction, and obtaining information to report to senior management.

- o **Open Door Policy**
    - - **Explanation:** Regular practice of communication policy in which management leaves their door "open" in order to encourage openness and transparency with employees of the company. The key components of an open door policy are that it fosters discussion between employees of all levels; encourages employees to ask questions and make suggestions for development; and addresses problems or concerns. It is included in the handbook, stressed at all levels through meetings and one-on-one; understood and modeled by all managers/supervisors; and is an expectation of all supervisors.

- o **Internal Complaint Procedure**
    - - **Explanation:** The development of an internal complaint procedure is necessary to resolve issues between members of an organization. It can be a formal and/or informal procedure that includes a method to report issues, documentation requirements, consideration of evidence, and possible outcomes – counseling, formal apology, dismissal, etc.

- o **Collaborative Problem Solving**
    - - **Explanation:** Process requires sharing perspectives, defining issues, identifying interests and generating options; develop a fair standard or objective criteria to decide a win-win; expectation of all employees – is listed in the handbook; tools provided; training to encourage problem solving for staff; supervisors trained on facilitating problem solving process between two employees.

JPIA
Commitment to Excellence Program
Best Practices

Ergonomics and Falls Program

ACWA JPIA

YOUR BEST PROTECTION

ERGONOMICS/FALL PROGRAM BEST PRACTICES
(Ergonomics)

Loss Reduction Focus	Best Practices Menu
Ergonomic Program *	☐ Written program with periodic review ☐ Included in new employee orientation (NEO) ☐ Office/field evaluations ☐ Evaluations performed internally ☐ Responsible person identified
Ergonomic Training *	☐ Provided all employees and on-going ☐ Provided during new employee orientation (NEO) ☐ Provided temporary workers ☐ In-house trainer(s) ☐ TargetSolutions usage
Ergonomic Operations Equipment *	☐ Tools, equipment, resources obtained ☐ Quantity and availability ☐ Mechanical assistance ☐ Workstations ☐ Personal protective equipment (PPE) ☐ HR LaBounty Safety Award participation

*Documentation essential for all focus elements!

ERGONOMICS/FALLS PROGRAM "BEST PRACTICES"
(Ergonomics)

The following elements define the Ergonomics/Fall/Claims Program "Best Practices":

ERGONOMIC PROGRAM *

o **Written Ergonomic Program**

Explanation: A written Ergonomic Program should be established addressing the goals of ergonomic risk reduction and the responsibilities of management and employees. Ergonomic Programs elements could include the following guidance:

The purpose of an ergonomics program is to apply ergonomic principles to the workplace; in an effort to reduce the number and severity of musculoskeletal disorders (MSDs), decrease workers' compensation claims, and where possible, increase productivity, quality, and efficiency. An ergonomically sound work environment maximizes employee comfort, while minimizing the risk of undue physical stress.

MSDs are also known by several other names including:

- CTDs (cumulative trauma disorders)
- RSIs (repetitive stress or repetitive strain injuries)
- RMIs (repetitive motion injuries)
- Overuse syndrome

A proactive approach focuses on making changes when risks have already been identified, as well as incorporating ergonomics into the design phase of a new facility or process, into purchasing new equipment or tools, and into the contemplation of scheduling changes. Every employer should implement a program that includes the following components:

Management Leadership - Management is committed to the ergonomics process. Management supports the efforts of the Ergonomics Program Coordinator and the Ergonomics Committee, by pledging financial and philosophical support for the identification and control of ergonomic risk factors. Management will support an effective MSD reporting system and will respond promptly to reports. Management will regularly communicate with employees about the program.

Employee Participation - Employees will be solicited for their input and assistance with identifying ergonomic risk factors, worksite evaluations, development, and implementation of controls, and training.

Identification of Problem Jobs - Collecting data that identifies injury and illness trends is called surveillance. Surveillance can be either passive or active. Conducting a records review is an example of passive surveillance, which looks at existing data such as Cal/OSHA Logs, workers' compensation claims, trips to the medical facility, and absentee records. Active surveillance uses observations, interviews, surveys, questionnaires, checklists, and formal worksite evaluation tools, to identify specific high-risk activities. An employer should use both passive and active surveillance to identify problem jobs.

o **Included in New Employee Orientation (NEO)**

Explanation: A written Ergonomic Program should be reviewed with new hires during the NEO.

o **Office/Field evaluations**

Explanation: Both office and field activities should be evaluated to determine ways the factors that contribute to musculoskeletal pain and injuries (awkward posture, forceful exertion, pressure points, repetitive motion, and falls) can be reduced or eliminated. Actions should be taken or planned that address problematic conditions and actions discovered during evaluations.

o **Evaluations performed internally**

Explanation: Since work conditions may change at any time based on job requirements or changing physical conditions of the workplace or personnel, basic ergonomic evaluations of office and field activities should be accomplished primarily by agency supervisory staff as required by the Ergonomic Program. Reliance on outside sources for ergonomic evaluations should be secondary to the day-to-day supervisory responsibility of overseeing that element of personnel actions and ensuring the existence of a safe work environment.

o **Responsible person identified**

Explanation: Senior management should authorize a "responsible person" to ensure the agency's Ergonomic Program is understood by all personnel and implemented.

ERGONOMIC TRAINING

o **Provided to all employees and is on-going**

Explanation: All agency employees should be trained on the purpose of the Ergonomic Program and should understand the factors contributing to ergonomic injuries and the actions that can mitigate or eliminate those factors. Ergonomic training should occur periodically. At least every 3 years is suggested.

o **Provided during New Employee Orientation (NEO)**

Explanation: New employees should be trained on the purpose of the Ergonomic Program and should understand the factors contributing to ergonomic injuries and the actions that can mitigate or eliminate those factors. Training should occur within the first 2-3 weeks of employment. Classroom or online training can be employed. The goal should be to, at the beginning of employment, impress upon the new employee the agency's commitment to preventing ergonomic-related injuries.

o **Provided temporary workers**

Explanation: Temporary workers should be trained on the purpose of the agency's Ergonomic Program and should understand the factors contributing to ergonomic injuries and the actions that can mitigate or eliminate those factors. Training should occur within the first 2-3 weeks of employment. Classroom or online training can be employed. The goal should be to, at the beginning of employment, impress upon the new employee the agency's commitment to preventing ergonomic-related injuries.

o **In-house trainers(s)**

Explanation: Since the makeup of the workforce may change at any time based on job requirements or changing physical conditions of the workplace or personnel, basic ergonomic evaluations of office and field activities should be accomplished primarily by agency supervisory staff as required by the Ergonomic Program. Reliance on outside sources for ergonomic evaluations should be secondary to the day-to-day supervisory responsibility of overseeing that element of personnel actions and ensuring the existence of a safe work environment.

o **TargetSolutions usage**

Explanation: The online ergonomic training provided by TargetSolutions provides an opportunity for agency personnel to learn about and review ways to reduce or eliminate the musculoskeletal pain associated with the job tasks they perform. The advantage of this form of training is that educational opportunities can match the available of agency personnel.

ERGONOMIC OPERATIONS EQUIPMENT

o **Tools, equipment, and resources obtained**

Explanation: Engineering controls are the preferred method of controlling ergonomic stresses since the primary focus of ergonomic hazard abatement is to make the job fit the person, not force the person to fit the job.

- Tasks performed by the employee in the performance of his/her responsibilities shall be designed to prevent extreme postures, repetitive motion, excessive force and static work; and

- Tools used in the performance of assigned tasks shall be designed to prevent or reduce chronic muscle contraction; awkward finger, hand and arm positions; repetitive forceful motions; vibration; and excessive gripping, pinching or pressing with the hand and fingers.

o **Quantity and availability**

Explanation: A suitable quantity of serviceable ergonomic tools and equipment is available to ensure worker exposure to potential ergonomic injury is not increased. Workers are afforded time to bring the equipment to job sites and not perform operations if District-owned / leased equipment is being utilized elsewhere. Whenever possible, ergonomic equipment availability is a consideration for scheduling operations and maintenance jobs.

o **Mechanical assistance**

Explanation: Mechanical lifting devices (e.g., cranes, lifts, hoists, etc) are provided where practicable to eliminate injuries from strains and overexertion. Portable equipment is installed with casters and lift points to ease movement.

o **Workstations**

Explanation: A workstation outfitted with the proper furniture and equipment can lead to a more comfortable and safer work environment. Ergonomic injuries occur at workstations due to reaching, bending, awkward postures and applying pressure or force. If workstations are designed properly, most ergonomic hazards can be reduced if not eliminated.

- Workstations are designed to accommodate the person who actually works at a given station and not for an average or typical employee;

- Workstations are designed so that the station can be adjusted easily to accommodate the employee assigned to the station and the equipment used at the station shall be designed for that purpose;

- The workstation are sized to allow for the full range of movements required to perform assigned tasks;

o **Personal Protective Equipment (PPE)**

Explanation: PPE should be used as the principal means of control only as a last resort when neither engineering nor administrative controls are possible, or in the event of emergencies. It is considered the least effective form of control. PPE does not eliminate the hazard or reduce the time of exposure. PPE simply reduces the amount of hazardous exposure by placing a barrier between the hazard and the worker. PPE should be selected with ergonomic stressors in mind. It should not contribute to extreme postures and excessive forces. PPE such as vibration attenuating gloves, knee pads, floor padding, clothing or equipment designed for the intended purpose should be provided, as warranted. Employees using PPE should be first trained in the equipment's use and care. *Note:* Braces, splints and back belts are not considered personal protective equipment and when used, shall be at the direction and under the supervision of the employee's treating physician.

ERGONOMICS/FALLS PROGRAM BEST PRACTICES
(Falls)

Loss Reduction Focus	Best Practices Menu
Work Environment *	☐ Housekeeping ☐ Work area debris management ☐ Work site access ☐ Lighting
Fall Protection Personal Protective Equipment (PPE) *	☐ Footwear/boots ☐ Guardrails/walkways ☐ Fall prevention/arrest systems ☐ Ladders/stairs/ramps ☐ Climbing systems ☐ Maintenance and storage
Fall Protection Training *	☐ Training for all personnel ☐ PPE maintenance and inspection training ☐ TargetSolutions usage

*Documentation essential for all focus elements!

ERGONOMICS/FALLS PROGRAM "BEST PRACTICES"
(Falls)

The following elements define the Ergonomic/Falls Program "Best Practices":

WORK ENVIRONMENT

- **Housekeeping**

  Explanation: One finds that many of the tasks are repetitive in nature such as buffing, vacuuming, emptying garbage, tidying, dusting, and sweeping floors. People carry or move trash and debris every day. It is easy to see that many of the injury types are directly related to the tasks performed in housekeeping operations.

  Ergonomics is the practice of designing equipment and works tasks to conform to the capability of the worker. It provides a means for adjusting the work environment and work practices to prevent injuries before they occur. The goal of ergonomics is to fit the work to the worker.

  Effective ergonomic design provides work stations, tools, and equipment that are comfortable and efficient for the worker to use. It also creates work environments that are healthy, and it reorganizes the work process to control or eliminate hazards.

- **Work Area Debris Management**

  Explanation: The primary goal of the worksite evaluation is to ensure a safe and healthy work environment by identifying and evaluating potential hazards. Routine site safety and health inspections are designed to catch missed debris hazards. Inspections should be done at regular intervals, generally on a weekly basis. In addition, procedures should be established that provide a daily inspection of the work area.

- **Worksite Access**

  Explanation: Site access inspections should be used to improve the hazard prevention as follows:

  - Inspections should cover every part of the worksite.
  - They should be done at regular intervals.
  - In-house inspectors should be trained to recognize and control hazards.
  - Identified hazards should be tracked to correction.

  You can use checklists already developed or make your own based on the following:

  - Past problems
  - Standards that apply to your industry
  - Input from everyone involved
  - Company safety practices or rules

- o **Lighting**

  Explanation: Common office lighting can often create a great deal of eyestrain by making your computer monitor difficult to see. Adjust your shades or lights as much as you can to reduce glare, and position your monitor at such an angle that reflection is reduced. It can be helpful to keep overhead lights dimmed and use a desk lamp for close work.

FALL PROTECTION PERSONAL PROTECTIVE EQUIPMENT (PPE)

- o **Footwear/boots**
  Explanation:
    1. Only approved footwear shall be worn. (CCR 8: Section 3285)
    2. Footwear should be maintained in good condition and replaced as needed.
    2. Footwear should be slip resistant, and oil resistant.
    3. Footwear should have steel or composite toes when working near equipment or heavy loads to prevent crushing.
    4. A boot replacement program should be in place to assist employees in purchasing costs.

- o **Guardrails/walkways**
  Explanation:
    1. Open elevated platforms above 30 inches shall be protected by guardrails on all sides. (CCR 8: 3210)
    2. Temporary and Permanent Guardrails' construction shall meet CAL-OSHA standards. (CCR 8: Sections 1620,1621 3209, and 3210)

- o **Fall Protection/arrest systems**
  Explanation: ,
    1. When guardrails are not present, Fall restraints or arrest systems shall be used to prevent falls when working above 7 1/2 ft. elevations. (CCR 8: Section 1670)
    2. Equipment shall be inspected before use, and by a competent person at least annually and at other periods recommended by manufacturer, and documented. Damaged equipment shall be removed from service
    3. Employees shall be trained in the use, maintenance and inspection of the equipment.
    4. Body Belts may not be used except as a positioning device.
    5. A fall rescue plan should be in place.

- o **Ladders/stairs/ramps**
  Explanation
    1. Portable ladders, shall meet CAL-OSHA standards. (CCR 8: Section 3276) Fixed adders, cages, and platforms shall meet CAL-OSHA standards.(CCR 8: Section 3277)
    2. Ladders should be inspected daily by a competent person and documented.
    3. Ladders shall be used in an approved manner. (CCR 8: Sections 3276 (e) (15), and 3278)
    4. Damaged/unsafe ladders should be repaired or removed from service.
    5. Only appropriate ladders shall be used for the job.
    6. Training shall be provided in ladder use and safety, and documented.
    7. Ramps should meet specifications set forth in CAL-OSHA standards. (CCR 8: Sections 3232 and 3233)
    8. Stairs should meet specifications set forth in CAL-OSHA standards. (CCR 8: Section 3234)
    9. Stair rails should meet specifications set forth in CAL-OSHA standards. (CCR 8: Section 3214)

- o **Climbing Systems**
  Explanation:
  1. Ladder Safety Systems(fall protection) may be used on tower, water tank, and chimney ladders over 20 feet in unbroken length in lieu of cage protection. No landing platform shall be required
  2. All ladder safety systems shall meet the design requirements of the ladders which they serve. (CCR 8: Subsection c)
  3. Training shall be provided in use and safety of such devices, and documented

- o **Maintenance and storage**
  Explanation:
  1. Equipment shall be maintained in a safe condition and stored per manufacturer Recommendations, and readily accessible by authorized persons.
  2. Equipment shall be stored so shall be protected from sunlight, and other damage..

FALL PROTECTION TRAINING

- o **Training for all personnel**

  Explanation: Falls can be prevented when employees understand proper set up and safe use of equipment. Employers must train workers in hazard recognition and the care and safe use of equipment such as ladders and scaffolds, and fall protection systems.

  Ladder Safety: Employees must be trained to properly use a ladder including the following safety measures:

  - Maintain three points of contact
  - Place the ladder on level footing
  - Always face the ladder
  - Secure the ladder by locking the metal braces at the center of the ladder
  - Don't overreach
  - Don't walk the ladder

  Scaffold Safety: Employees must be trained to safely set up and use scaffolds:

  - During setup: fully plank scaffolds, complete all guardrails, ensure stable footing and plumb and level
  - Ensure proper access to scaffolds
  - A competent person must inspect the scaffold before use
  - Don't climb over cross braces
  - Don't stand on guardrails
  - Don't use a ladder on a scaffold

  Roof Safety: Employees must be trained to avoid fall hazards on a roof and properly use fall protection equipment:

  - Make sure your harness fits and is not defective when using PFAS
  - Always stay connected/tie off
  - Ensure that all anchor points are safe
  - Protect all holes, openings and skylights
  - Don't sit or walk on skylights or other opening

- **PPE maintenance and inspection training**

  Explanation: Worker trauma from falls from elevated work surfaces can be minimized by the proper selection and use of personal fall protection systems. To provide effective protection, these systems must be properly maintained and inspected.

  Maintenance of fall equipment: Basic care of all safety equipment will prolong the durable life of the unit and will contribute toward the performance of its vital safety function. Proper storage and maintenance after use are as important as cleaning the equipment of dirt, corrosives or contaminants. Storage areas should be clean, dry, and free of exposure to fumes or corrosive elements.

  Inspection of fall equipment. All fall protection and work positioning equipment must be inspected before use each day and cannot be used if any defects are present. The best practice is to inspect the equipment before each use, rather than only once daily. Inspections include visual examination of harnesses, lifelines and lanyards, snap hooks and D-rings, and rescue equipment. Deficient equipment should be tagged, removed from service, and replaced or properly destroyed to prevent further use.

- **TargetSolutions usage**

  Explanation: TargetSolutions is an online resource offered to JPIA member agencies as part of their coverage. This resource offers a means to provide a wide variety of training courses to accommodate new employees, staff that cannot attend classroom training, and on-demand refresher training. The following modules are suggested for addressing fall protection awareness.

  - Water Industry Slips, Trips, and Falls Prevention
  - Water Industry Fall Protection

ERGONOMIC/FALL/CLAIMS PROGRAM BEST PRACTICES
(Claims)

Loss Reduction Focus	Best Practices Menu
Claims Reporting *	☐ Written procedures ☐ Primary and Back-up responsible persons ☐ Timely reporting to JPIA ☐ Staff, NEO, training
Job Descriptions *	☐ Physical requirements identified and updated periodically. ☐ Pre-employment physicals ☐ Considered in Return-To-Work Program
Return To Work Program (RTWP) *	☐ Formal Program with periodic review ☐ Return-to-work team ☐ Fit-for-duty exams (not for WC claims) ☐ Temporary duty focus
Aging Workforce Considerations *	☐ Aging workforce planning ☐ Interactive process provided .

*Documentation essential for all focus elements!

<p align="center">ERGONOMICS/FALLS PROGRAM "BEST PRACTICES"
(Claims)</p>

The following elements define the Ergonomics/Fall/Claims Program "Best Practices":

CLAIMS REPORTING *

- **Written Procedures**

  Explanation: In order to ensure loss claims are reported in a manner that facilitates prompt and accurate claims management and injury/illness care, written procedures should be developed and made available describing how to report claims to the JPIA or other claims administrator. At a minimum, the following should be identified in the reporting procedures:

  - Who is authorized to report a claim to the JPIA or other claims administrator
  - Who is responsible for identifying a claim to the agency's authorized claims reporter
  - The contact information for the administrating agency (name, phone number, email, etc.)
  - The forms to be used to document and report a claim
  - The primary and secondary method of reporting (telephonic, fax, email, etc.)
  - Time requirements for reporting claims

- **Primary and Back-Up Responsible Persons**

  Explanation: In order to avoid late claims reporting, primary and secondary (back-up) personnel should be trained in reporting requirements and assigned the duties of reporting claims for the agency. At least one of the assigned reporting personnel should be present at the agency during business hours to report claims. After-hour duty reporting procedures should also be established.

- **Timely Reporting to JPIA**

  Explanation: To ensure claims can be acted upon as quickly as possible, and within the reporting timeframe established by law or regulation, reporting timeframes must be clearly identified and understood by authorized claims reporters and supervisors.

- **Staff and NEO Training**

  Explanation: For the agency's claims reporting to be effective, claims reporting personnel, supervisors, and employees must be trained in the reporting procedures and the responsibilities each have according to those procedures. Claims reporting procedures training should be included in new employee orientation (NEO).

JOB DESCRIPTIONS *

- **Physical requirements identified and updated periodically**

  Explanation: The physical requirements of the job should be included in the job description. Job descriptions should be reviewed periodically to ensure job functions and physical requirement are up to date. Job descriptions that include the physical requirements provide physicians the information needed when conducting pre-employment physical and fit-for-duty examinations.

- **Pre-employment physicals**

  Explanation: Pre-employment physicals should be conducted for all potential employees using job descriptions indicating the functional and physical requirements of the job.

- **Considered in RTWP**

  Explanation: Job descriptions indicating the functional and physical requirements should be considered in a Return To Work Program (RTWP) when determining the availability of transitional duty jobs for personnel with temporary performance-limiting injuries or illnesses.

RETURN TO WORK PROGRAM (RTWP) *

- **Formal Program with periodic review**

  Explanation: A formal RTWP should be established to provide, whenever possible, employees with performance-limiting injuries or illnesses the opportunity to be productive and heal faster. The agency's RTWP should be explained to all personnel. The structure and procedures of the RTWP should be reviewed periodically. The purpose and value of the RTWP to employees and the agency should be reviewed with all personnel periodically.

    - *A Supervisor's Guide to Managing Ill and Injured Employees in the Workplace* (online training) should be mandatory reading for all managers and supervisors.

- **Return to work team**

  Explanation: As part of the RTWP, a Return to Work Team should be established to consider developing and offering a transitional duty (limited duty) position to personnel with temporary performance-limiting injuries or illnesses. The team should consist of supervisory staff knowledgeable of agency job descriptions and RTWP procedures and authorized to offer transitional duty to personnel with temporary performance-limiting injuries or illnesses when deemed practical.

- **Fit-For-Duty exams (not for WC claims)**

  Explanation: Fit-for-duty exams should not be provided for personnel having work-limitations resulting from work-related injuries or illnesses since the Workers' Compensation program will evaluate the capability of such individuals. Fit-for-duty can, however, be used at the discretion of the agency to determine the potential for transitional duty to be offered an employee with temporary non-work related and injury or illness limitations.

  Temporary duty focus

  Explanation: The focus of the RTWP should be on offering **temporary** *transitional duty* to personnel with <u>temporary</u> (not permanent) physical work limitations. Transitional duty should not become a long-term accommodation for a physical limitation. Transitional duty job descriptions should be reviewed and modified as the injured/ill employee's condition improves.

AGING WORKFORCE CONSIDERATIONS *

- **Aging Workforce Planning**

  Explanation: In order to reduce the injury and illness loss risks for an organization, processes and procedures should be developed to help the aging workforce (and the workforce being aged) prevent musculoskeletal injuries from adverse ergonomic work conditions and falls. Special consideration should be given to increasing workplace lighting, making lifting/moving equipment readily available, reducing workplace noise levels, providing ergonomic and fall prevention training, and encouraging the development and implementation of procedures that reduce musculoskeletal risks.

  Career transition programs should be developed that allow the aging workforce a safe and mutually beneficial transition beyond agency employment. Examples could include:

  - Using experience of aging members in a mentorship role with new employees
  - Allow aging employees to function in a supervisory or lead-worker duty position for jobs the aging worker is highly experienced in.
  - Providing transitioning counseling through an Employee Assistance Program (EAP)

- **Interactive Process Provided**

  Explanation: In order to effectively utilize the experience and skills of workers desiring an accommodation for a permanent physical work limitation, the agency must thoroughly understand the "interactive process" and employ it under the guidance of legal counsel.

*Documentation essential for all focus elements!

JPIA

Commitment to Excellence Program
Best Practices

Wildfire Prevention

ACWA JPIA

YOUR BEST PROTECTION

WILDFIRE PREVENTION BEST PRACTICES

Loss Reduction Focus	Best Practices Menu
Planning and Coordination	☐ Develop an emergency Wildfire Emergency Response Plan (ERP) ☐ Per SB 901 definition, establish and maintain current Wildfire Mitigation Plans, if required. ☐ Join the state's Water/Wastewater Agency Response Network (WARN) or local/regional agency response network. ☐ Identify major water connections, interties, and priority water customers to minimize loss of water supply, quality, and/or system pressure.
Staff Training	☐ Conduct training, briefing, and exercises for wildfire preparedness, response, and recovery procedures, including NIMS training. ☐ Ensure shelter-in-place supplies and proper safety gear is available for employees ☐ Identify essential personnel and ensure they are trained to perform critical duties and they are provided with ID/access credentials. ☐ Establish how and when the utility emergency operations center (EOC) will be activated. ☐ Assign a representative of the utility to the local/region incident command post or EOC.
Facility Protection and Readiness	☐ Create a zone of defensible space around sites, wellheads, structures, etc. ☐ Determine if emergency generators are needed to power facilities. Confirm and document generator connection type, capacity load, and fuel consumption. ☐ Check that generators, back-up equipment, and facility systems are in working order. ☐ Be aware of Public Safety Power Shutoff (PSPS) guidelines for planned or emergency power outage for a long duration and a wide expanse. Establish procedures to be notified and have contacts with the electric provider for power outage duration estimates.

WILDFIRE PREVENTION BEST PRACTICES

Response and Recovery	☐ Maintain and inventory extra equipment and supplies to shelter-in-place. Ensure proper safety gear is available for field employees. ☐ Establish communication procedures with essential and non-essential personnel and ratepayer/public as to work, operational status, and water quality. ☐ Once the wildfire is contained, inspect the system for damage and operational status. Document all damage assessments to start an insurance claim and/or FEMA reimbursement process. The staff has completed NIMS 100/700 training and training records are on file. ☐ Develop a lessons learned document and/or an after-action report. Adjust budget or set aside funding for future emergencies.

WILDFIRE PREVENTION BEST PRACTICES

PLANNING AND COORDINATION

- ☐ **Review and update Member's emergency Wildfire Emergency Response Plan (ERP), including contingency plans for maintaining system operations.**

  Explanation:

  Disasters/emergencies that are likely to occur in the water system's service area should be addressed, including but are not limited to wildfire, earthquake, water outages due to loss of power, localized flooding, water contamination, and acts of sabotage. A wildfire is any instance of uncontrolled burning in grasslands, brush, woodlands, or urban interface. Wildfires can be caused by lightning, human carelessness, or arson. Wildfires often begin unnoticed, spread quickly, and present a direct risk to property and infrastructure, in addition to potential degradation of the water supply. Specific impacts to drinking water and wastewater utilities may include infrastructure damage to the facility or distribution system due to proximity to the fire or firefighting activities.

  Resources:

  State Water Resources Control Board Template Emergency Response Plan

  EPA Wildfire Incident Action Checklist

  Incident Action Checklists for Water Utilities - Incidents include but are not limited to the following:

  - Cyber-Attack
  - Drought
  - Earthquake
  - Extreme Heat
  - Flooding
  - Harmful Algal Bloom
  - Wildfire
  - Source Water Contamination
  - Distribution System Contamination

- ☐ **For Members who meet the SB 901 definition, establish and maintain current Wildfire Mitigation Plans assessing their level of wildfire risk and providing plans for wildfire risk reduction.**

Explanation:

With SB 901, California has taken a comprehensive approach to mitigate and create greater resilience against wildfire risks. A key element of SB 901 is in the provisions of the California Public Utilities Code (PUC) Section 8386, which requires electric utilities to develop annual wildfire mitigation plans (WMPs) to prevent, combat, and respond to wildfires within their service territories. Under PUC 8386(c), utilities must include in their WMPs statutorily prescribed content addressing a list of specific issues.

Resources:

SB 901 Wildfire Mitigation Plan Bill

Public Utilities Code (PUC) Section 8386

CAJPA Wildfire Mitigation Best Practices - In an effort to assist with the State of California's Catastrophic Wildfire Prevention and Response efforts, California Association of Joint Powers Authorities (CAJPA) is sharing this helpful review of related legislation designed to make the state more resilient to wildfires; and best practices and resources to assist with wildfire mitigation and emergency response.

For more information on the utility wildfire mitigation plans and the preceding at the California Public Utilities, please refer to the Commission's Utility Wildfire Mitigation Plan webpage.

CPUC Approves Wildfire Safety Division Recommendations for Utility 2020 Wildfire Mitigation Plans – June 11, 2020.

Truckee Donner PUD Wildfire Emergency Preparedness Webpage

Truckee Donner PUD Wildfire Mitigation Plan - May 2020

El Dorado Irrigation Forest Management Plan

Tulare Irrigation District Wildfire Mitigation Plan

☐ **Join the State's Water/Wastewater Agency Response Network (WARN) or local/regional agency response network.**

Explanation:

The mission of the California Water/Wastewater Agency Response Network (CalWARN) is to support and promote statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities. CalWARN's mutual assistance program is consistent with other statewide mutual aid programs, the Standardized Emergency Management System (SEMS), and the National Incident Management System (NIMS).

Resources:

CalWARN - The mission of the California Water/Wastewater Agency Response Network (CalWARN) is to support and promote statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities.

Fire Safe Councils - Fire Safe Councils throughout California educate businesses and homeowners about community wildfire preparedness activities while working with local fire officials to design and implement projects that increase the wildfire survivability of their communities. Many Fire Safe Councils have successfully implemented such projects as hazardous-fuel-reduction projects, Community Wildfire Protection Planning, and Emergency Response training.

Water Emergency Response Organization of Orange County (WEROC) administered by the Municipal Water District of Orange County (MWDOC), supports and manages countywide emergency preparedness, planning, response, and recovery efforts among Orange County water and wastewater utilities.

Public Water Agencies Group is an informal association of 17 public water agencies that provide various types of water service throughout Los Angeles County – from Antelope Valley in northern L.A. County down through the San Gabriel foothills. The Group continues to focus on current issues of concern among public agency water suppliers, including emergency preparedness, where the Group is taking a leading role in establishing a countywide, water-oriented emergency management and assistance network.

Emergency Response Network of the Inland Empire (ERNIE) - facilitates public agency preparedness for, response to, and recovery from local and regional disasters to ensure the delivery of critical public services through mutual aid, communications, and compliance with state and federal emergency standards.

Sacramento Area Water Works Association - SAWWA acts to advance and protect the interests of the local water industry. SAWWA helps members to reach out and build relationships throughout the community. They do this by considering problems in the production and distribution of safe, adequate water supplies to promote improvements in knowledge, design, construction, operation, and management of water utilities.

Water Resource Managers of Shasta (WRMS). This is an informal monthly meeting group in the Redding area with no website. For more information, contact:

> Chris Muehlbacher, General Manager, Centerville CSD
> (530) 246-0680
>
> Martha Slack, General Manager, Rio Alto WD
> (530) 347-3835

National Incident Management System (NIMS) Training Program Information - NIMS Training Program introduces training focused on the incident command structure and personnel positions and responsibilities. These areas include the Incident Command System, Joint Information System, Emergency Operation Center, and Multi-agency coordination. NIMS training may be a requirement for Multi-agency coordination, FEMA grants, and/or reimbursements.

☐ **Identify major water connections, interties, and priority water customers to minimize loss of water supply, quality, and/or system pressure, especially related to fire protection and firefighting efforts.**

Explanation:
Identify priority water customers (e.g., hospitals), obtain their emergency contact information, map their locations, and develop a plan to restore those customers first, in case of water service disruptions. Staff will, as quickly and safely as possible, determine the status of operations, assess damage to water system facilities, provide logistics for emergency repairs, and monitor the progress of repairs and restoration efforts. Prepare the customer service personnel to receive incoming calls from customers during an emergency to have information readily available to provide helpful guidance.

- Consider how or where to move water with no power. Prioritize facilities. Locate and exercise valves so they may be used when called upon. Locate single points of failure and determine how to mitigate such vulnerabilities.

- Prioritize sources, treatment, facilities, resources, and essential functions under the conditions of extended power outage and wildfires. Establish critical personnel shift schedules so they can be implemented when needed.

Resources:

> [SWRCB Templates for Public Notification](#) - Prepare notifications and messages to customers, partners, and stakeholders for situations such as precautionary boil water notices due to loss of pressure and compromised system.

> [Essential Use Customer Classification and Priority System for Rotating Outages](#)

> [CDC Guide - Water Supply Planning Guide for Hospitals and Healthcare Facilities](#)

STAFF

☐ **Conduct training, briefing, and exercises for Wildfire preparedness, response, and recovery procedures. Emergency response staff to complete SEMS G-606, NIMS 100/700 training, and maintain training records.**

Explanation:
Training staff on how to prepare, respond, and recover from wildfires are critical when managing fire emergencies. These actions are collectively known as Emergency/Incident Management. In 1993, the State of California created the Standardized Emergency Management System (SEMS) to respond to emergencies within the state of California. In 2004, the federal government established the National Incident Management System (NIMS) to address nationwide emergencies. Training in both models is necessary to understand how they work together and are required to be eligible for reimbursement of response-related costs. Both systems utilize the Incident Command System (ICS), and Emergency Operations Center (EOC) to respond to incidents. Cal OES provides no-cost training for SEMS, while FEMA provides no-cost training on NIMS. It is recommended all employees attend SEMS Introduction (SEMS G606) Online Course, and management and supervisory staff attend FEMA's ICS-100: Introduction to the Incident Command System, and IS-700: National Incident Management System, An Introduction.

As part of the SEMS/NIMS training, districts shall conduct an annual tabletop exercise on incident response to familiarize themselves with the functions of the ICS and EOC in preparation for future events.

Districts are also required by Cal/OSHA standard 5141.1 Protection from Wildfire Smoke to train staff on the harmful effects and mitigation of wildfire smoke.

Resources:

[SEMS G606: SEMS Introduction Online Course](#) - To access the course, you must click on the "Request" button to register.

[ICS and NIMS Training Courses](#) - Link to courses ICS-100 and IS-700.

[ICS Training Resource Center](#) - Identifies additional courses critical to train personnel capable of implementing all functions of emergency management.

[FEMA's EOC Skillsets and EOC Skillsets User Guide](#) - The EOC Skillsets reflect common functions performed by EOCs. EOC leaders can mix and match skillsets, combining them to form EOC position task books that reflect the needs of their EOC.

[Overview of SEMS](#) - Brief overview of California's SEMS.

[Ready.gov Incident Management](#) - Provides an overview of Incident management.

[FEMA ICS for Utilities](#) - Explains why the ICS is important for utilities.

[Cal/OSHA Standard 5141.1 Protection from Wildfire Smoke](#)

[Water Utility Response On-The-Go Mobile Application](#) - Consolidates and makes accessible from the field, information, and tools that water utility operators and their response partners may need during an emergency. The app can help responders and stakeholders increase situational awareness, facilitate coordination, and enhance overall response efforts.

☐ **Ensure Shelter-in-Place supplies and proper safety gear is available for employees.**

Explanation:
Necessary supplies and safety gear should be stocked before an emergency event. These supplies will allow staff to focus on necessary tasks to maintain and operate critical assets. It may be necessary in an emergency that staff shelter in place. After an event, it will be difficult to get necessary supplies, stocking these supplies allows time for an EOC to be activated and respond to operational needs. It should be determined in an emergency response plan what supplies will be needed for critical activities. Some supplies may have an expiration date and need to be replaced at appropriate times. It is important to establish an inspection procedure to ensure that no supplies reach their expiration date. Common supplies are water, food, battery-powered NOAA Weather Radio, batteries, flashlights, first aid kit, and N95 respirators. Communication with key staff will be critical. It is important to consider if cell

phones will be operational during an emergency. The system could be overloaded or a cell tower could burn down, making it impossible to contact staff. It is recommended to contact your County Office of Emergency Services (OES) to discuss the district's communication options during emergencies.

Resources:
Ready.gov Basic Disaster Supply Kit

EPA Wildfire Incident Action Checklist - Includes a list of potential supplies on page 4.

EPA Emergency Response Plan Template - Shelter In-place Plan Page 2.

Government Emergency Telecommunications Service (Gets) - Provides priority access and prioritized processing in the local and long-distance segments of the landline networks greatly increasing the probability of call completion.

☐ **Identify essential personnel and ensure they are trained to perform critical duties. Ensure ID/access credentials are current to allow access during an incident**

Explanation:
It is vital to pre-identify essential personnel before an emergency, but also cross-train personal on critical duties. During an emergency, some staff may not be available during an event. For this reason, it is helpful to have step-by-step checklists for critical positions and operations during emergency response. These checklists should be reviewed by essential personnel and part of an annual incident response training exercise. Pre-identified personnel and checklists should be included in the district's written Emergency Operations Plan.

Essential personal should be issued ID that identifies them as essential workers. This notifies emergency services personnel that the district has critical assets in the area, and they should be allowed access to restricted areas. A contact number should be included on the ID for verification.

Resources:
Ready Business Program Staff/Employee Management Video - Video addresses business preparedness in terms of staff/employee management.

Ready.gov Emergency Exercises - Reviews exercises for emergency preparedness.

[EPA's Incident Action Response –Wildfire Checklist](#) - This list provides the "Rip & Run" checklist for water utilities on how to prepare, respond, and recover to wildfires.

[Cal/OSHA Preparing for Emergencies Factsheet](#)

Example ID Badge:
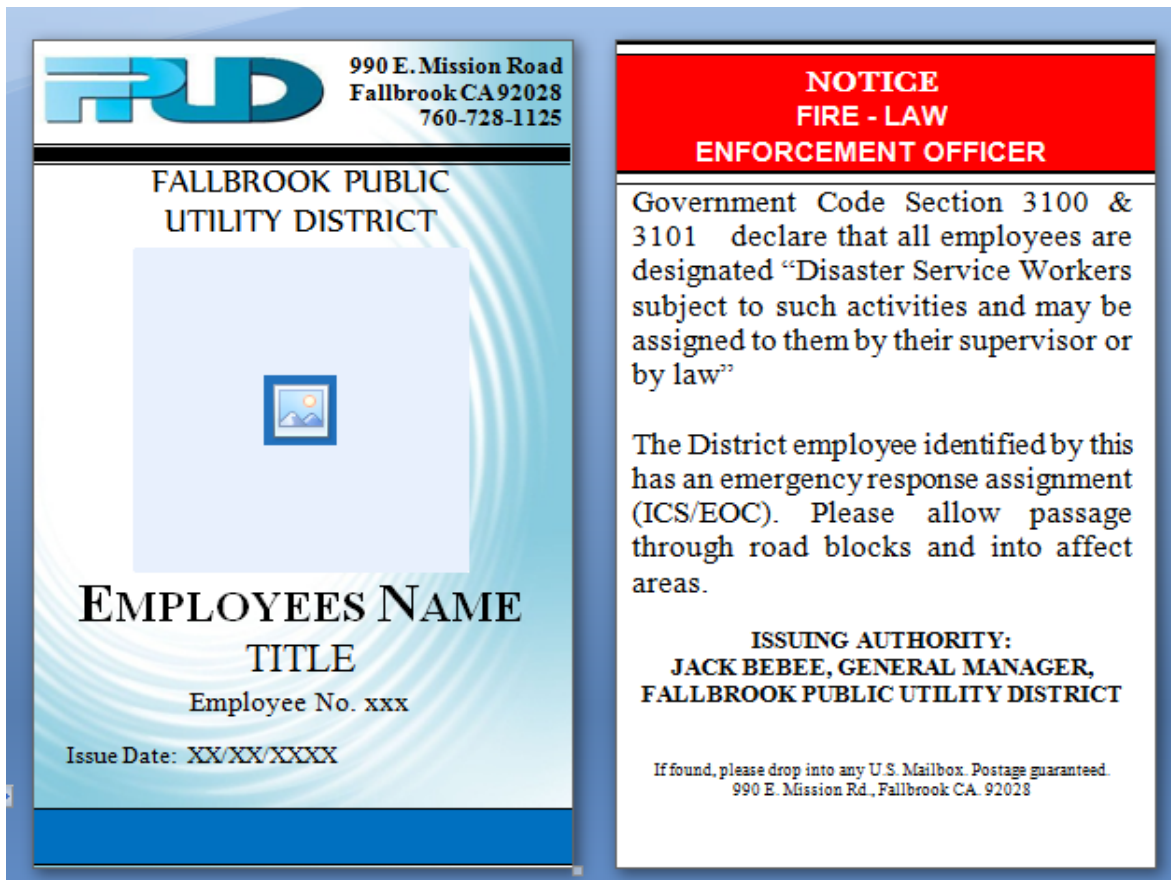
- ☐ **Establish how and when the utility emergency operations center (EOC) will be activated.**

  Explanation:
  An EOC is not an on-scene incident command post (ICP) where the focus is on tactics to deal with the immediate situation. An EOC supports the on-scene activities through the prioritization of tasks and the allocation of available resources. A major function within the EOC is communications between the emergency response operations team, finance team, communications team, and district management. A utility's Emergency Operations Center (EOC) should be activated whenever there is a major incident that causes significant property damage, potential or actual business disruption, or has the

potential to cause a significant impact on the business. Chain of command and lines of authority should be predesignated identifying whom and when an EOC can and should be activated.

Resources:
[National Incident Management System](#) - EOC Activation and Deactivation (page 38).

[Emergency Response Planning Template for Public Drinking Water Systems](#) (Small Systems) Chain of Command and Events that Cause Emergencies (pages 4 & 5).

☐ **Assign a qualified representative of the utility to the Incident or Unified Command Post.**

Explanation:
A member district shall identify qualified staff to represent the member in local or county OES. This interface is vital to receive and give up-to-date information related to the emergency. This is the most effective way for members to stay informed and understand how an emergency may affect the district. It is strongly advised that districts develop these relationships before an emergency.

Resources:
[FEMA's Organizational Representation EOC Skillset Form](#) - This form identifies the general duties of an organization's representative when visiting.

FACILITIES

☐ **Create a zone of defensible space around sites, wellheads, structures, etc.**

Explanations:
Defensible space refers to the area surrounding a building that is mitigated to protect it from wildfires. Along with the quality of a building's roofing material, adequate defensible space is one of the most important factors in determining a building's ability to survive a wildfire. The defensible space is made up of two zones totaling at least 100 feet from the building. The creation and maintenance of defensible space, when possible, can greatly reduce the fire risk to a facility.

Members are encouraged to check with their city and/or country specifics on defensible space.

Resources:

JPIA Source – Wildfire Preparedness – Initial steps to develop a sustainable plan that will help agencies protect against wildfires.

JPIA– Water and Wastewater Preparedness and Response to Wildfire – Actions agencies can take to prepare, respond, and recover from a wildfire.

Alliant Fire Season: Preparing for the Worst

SB 190 – Legislation that is required for the development and enforcement of a defensible space program.

California Code GOV § 51182 – Code requiring occupied dwellings or structures to maintain defensible space.

Public Resource Code (PRC) 4291 - Protection of forest, range, and forage lands.

Cal Fire Defensible Space / PRC 4291 – Resources for creating a defensible space.

Cal Fire Maintain Defensible Space – Resources for maintaining a defensible space.

Cal Fire Wildland Urban Interface Operating Principles

USDA Wildfire, Wildlands, and People: Understanding and Preparing for Wildfire in the Wildland-Urban Interface

US Fire Administration Wildland Urban Interface (WUI)

FEMA Defensible Space

FEMA How to Prepare for a Wildfire

DisastorSafety.org Maintain Defensible Space

☐ **Determine if emergency generators are needed to power facilities. Confirm and document generator connection type, capacity load, and fuel consumption.**

Explanations:

The loss of electric power can have profound impacts on drinking water and wastewater utilities. With increased attention on wildfire and the adoption of Public Safety Power Shutoff (PSPS), the loss of electrical power is more likely than ever. The impacts of these power outages can incur pressure losses, boil water advisories, a reduction or cessation of water treatment, sewage back up, or the discharge of untreated sewage into the public right of ways, rivers, and streams. There are many steps drinking water and wastewater utilities can take to obtain backup power, and ensure that their lifeline services continue as long as possible during grid power outages.

Efforts should be made around developing an emergency power backup plan. One that provides backup power to critical infrastructure, either through permanent or mobile generators, or solar and batteries.

Resources:

[EPA Power Outage Incident Action Checklist (PDF)](#)

[Using Backup Generators: Alternative Backup Power Options](#)

[PG&E Backup Power](#)

[CARB – Emergency Backup Power Option – Commercial](#)

[CARB - Use of Back-up Engines for Electricity Generation During Public Safety Power Shutoff Events](#)

[Using Portable/Emergency Generators Safely and Usage Guidelines](#)

☐ **Check that generators, back-up equipment, and facility systems are in working order.**

Explanations:
Emergency generator sets used for either prime or backup (emergency) power must be regularly maintained to ensure they provide quality power throughout their service life. The best generator inspection and maintenance practice are the National Electrical Code (NEC) 700. The Code's main goal is to keep the emergency generator from breaking down and operating as reliably as possible. Members should check their generator's manufactures operators manual for preventative maintenance and self-inspection checklists.

Resources:

[Preventive Maintenance For Standby Emergency Generators](#) - (Perspective September/October 2019, page 6).

[2020 NEC](#) – A NFPA profile ([free to create](#)) is needed to access the Article 700.

[Mike Holt's Illustrated Guide to NEC Requirements for Generators and Standby Power Systems](#)

[OSHA Fact Sheet - Using Portable Generators Safely](#)

[US Army Engine Generator Set Inspection Checklist](#)

☐ **Be aware of Public Safety Power Shutoff (PSPS) guidelines for planned or emergency power outage for a long duration and a wide expanse. Establish procedures to be notified and have contacts with the electric provider for power outage duration estimates.**

Explanations:

Given the continued and growing threat of extreme weather and wildfires, additional precautionary measures have been adopted to enhance community wildfire safety. A PSPS can be implemented in a geographical area when there are gusty winds and dry conditions, combined with heightened fire risk, or threaten a portion of the electric system. Therefore, members are encouraged to establish procedures within their emergency response plan to prepare and respond to a PSPS.

Resources:

[Public Safety Power Shutdown – The Power of Being Prepared](#)

[Public Safety Power Shutoffs – Resource Guide](#)

[PGE Public Safety Power Shutoff Policies and Procedures](#) (September 2019).

[SDGE – Public Safety Power Shutoff](#)

[Southern California Edison - Public Safety Power Shutoff](#)

[Liberty Utilities PSPS Fact Sheet](#)

RESPONSE AND RECOVERY

☐ **Maintain and inventory extra equipment and supplies to shelter-in-place. Ensure proper safety gear is available for field employees.**

Explanation:

Ensure all necessary equipment and supplies are prepared as part of the district's emergency planning. Designate locations throughout the district where supplies can be properly stored and used in the event of a shelter-in-place event. Ensure a sustainable supply chain to guarantee that all vital equipment and supplies are replenished when needed. When evacuation is not possible, maintain enough supplies (i.e. food, water, personal items) for a minimum of three days. Develop a process to check all emergency supplies at least once a year, and replace anything that could be expired or non-functioning.

Resources:

[Cal Water Emergency Preparedness](#)

[Emergency Supply Kit](#) - Maintaining adequate supplies such as food, water, personal items, tools.

[Storing Emergency Water Supply](#)

[EPA –Drinking Water Supply Planning](#)

[Ready.gov Build A Kit](#)

[California Emergency Plan & Emergency Support Functions](#) - During statewide events, develop a plan to work with the county OES Resources Unit for a resource request.

☐ **Establish communication procedures with essential, non-essential personnel, and ratepayer/public as to work, operational status, and water quality.**

Explanation:
Develop a communication plan to communicate promptly and accurately with employees, the public, and local city/county governments. Identify key leadership and liaison positions that can initiate the plan when a disaster strikes. Implement a notification system that quickly reaches out to employees and ratepayers. A mass communication system should be used for quickly pushing out information to employees and the public. Ensure contact information is accurate and accessible during an incident. Develop a process to check that contact information is up-to-date. Ensure that methods selected for communicating would be reliable during times of an emergency. Lines of communication should be checked during yearly emergency preparedness exercises.

Resources:
[Ready.gov Communication Plan](#)

[FEMA Mobile App](#)

[Public Safety Power Shutoff](#)

Mass Communication Systems:

[Alert OC](#) - Orange County's notification system designed to distribute emergency information to staff and the public.

[Text-Em-All](#) - App can be used to communicate with district personnel.

[Standardized Emergency Management System (SEMS)](#) - During the multi-agency response, SEMS/NIMS will be activated to communicate with local first responders and County OES.

☐ **Once the wildfire is contained, inspect the system for damage and operational status. Document all damage assessments to start an insurance claim and/or FEMA reimbursement process. The staff has completed NIMS 100/700 training and training records are on file.**

Explanation:
Document information about the operational status of locations and assets and the extent of damages. Develop an itemized list of losses and potential losses with an estimate of debris removal, repair, or replacement cost of each item/location, and emergency work. Document staff time during preparation and response during a fire. Ensure, based on position(s) held, all personnel have completed the applicable National Incident Management System (NIMS) and Standardized Emergency Management System (SEMS) training. Conduct risk assessments for the development of a Hazard Mitigation Plan.

Resources:
EPA Public Assistance - Public assistance for Water and Wastewater Utilities in emergencies and disasters.

Cal OES Emergency Management Training Program

Cal OES Hazard Mitigation

FEMA- Emergency Operations Center Assessment Checklist

National Incident Management System Training - NIMS

Cal OES – My Hazards - Discover hazards in your area (i.e. wildfires) and develop steps to reduce risks.

OC Regional Water and Wastewater Hazard Mitigation Plan

FEMA Preliminary Damage Assessments

☐ **Develop a lessons learned document and/or an After Action-Corrective Action report. Adjust budget or set aside funding for future emergencies.**

Explanation:
Lessons learned can provide a roadmap to recovery. It should be tailored to specific operations affected by a wildfire. Develop a mitigation plan to reduce or eliminate disaster-related damage from recurring. The use of checklists and/or online toolkits can be very effective in developing a recovery plan. The following should be considered when adjusting budgets or creating future emergency funds:

- Staff training
- Property protection
- Viable supply chain
- Equipment/IT service

Resources:

Cal OES After Action-Corrective Action Reporting

Community Wildfire Protection Plan

Protect Against Future Disasters

Water Infrastructure and Resiliency Finance Center - Webinars highlighting the financing resources available to utilities.

Urban-Wildland Fire Coordination Plan for Water Utilities & Fire Departments This template was developed by The Water Emergency Response Organization of Orange County (WEROC) with lessons learned and best practices from recent wildfires.

Federal Disaster Funding - Eligible uses of selected federal disaster funding for Response, Recovery, and Mitigation efforts.

Ready.gov Preparedness Planning