



Effective Maintenance is Good Risk Management

An article published in the Wall Street Journal on July 10, 2019, describes the Pacific Gas and Electric Company (PG&E), currently in bankruptcy as knowingly disregarding needed repairs and maintenance to its transmission lines until they failed. Many of the failures resulted in devastating wildfires. The bad lines

According to the Journal article similar conditions still exist on many transmission lines after many years of neglect. The company's inability to complete required maintenance on its lines led to cutting power to over 800,000 customers in mid October 2019 when severe fire weather struck California. This measure was taken

to try to prevent the kind of catastrophic fires that occurred in 2017 and 2018.

The Bastrop Complex wildfire in 2011 that burned over 34,000 acres of loblolly pines, destroyed 1,673 homes and killed two people east of Bastrop was caused by sparking power lines being hit by dead trees and branches blown down by high winds. Could proper

maintenance of trees around power lines have prevented this fire? Litigation after the fire against the Bluebonnet Electric Cooperative was diverted by contract to a tree maintenance company that had a contract to perform tree trimming along the 11,000 miles of Bluebonnet's transmission lines. The tree maintenance company reached settlements with hundreds of homeowners in 2018. (This is also a good example of the transfer of risk by contract in effective hold harmless agreements backed up by sufficient insurance.)

These are dramatic examples but most water districts



included gas and electricity transmission lines. A gas line explosion in 2010 killed eight people and PG&E was convicted of safety violations for that occurrence. (Time, July 11, 2019, "Judge Demands PG&E Respond to Wall Street Journal Article That the Company Knew its Lines were Faulty") The judge overseeing the company's probation was disturbed to learn about the lack of maintenance and repair of electricity transmission lines that caused wildfires in 2017 and the Camp Fire in November 2018 that killed 85 people.

face maintenance issues that if neglected could also have very serious negative results. For instance, mowing of canal banks is a constant process with beneficial results. One of the reasons for mowing is to be able to see the effects of erosion, animal burrowing or the beginning of seeps that could lead to larger flows of water. Any of these disturbances could result in catastrophic failure of the canal bank with loss of valuable water, flooding of adjacent homes and inability to deliver contracted water to municipalities, farms and orchards. From a risk management and safety perspective, the ability to detect and prevent leakage results in a definite return on the time and money spent maintaining the canal bank.

Dam safety is another area of risk avoidance through constant maintenance and vigilance. Districts responsible for dams are constantly watching and monitoring seeps or water movement below the dams. They exercise, repair and paint spillway gates and make sure motors that move the gates are in good working order. Erosion of rip rap on lakeside dam structures caused by wave action during Hurricanes Rita and Ike led to emergency maintenance (funded by FEMA) to replace the huge rocks and boulders that provided erosion protection at the dams.

Water districts measure cost of risk as amounts paid for insurance coverage, deductibles, lost time and effort associated with accidents, salary and benefits for dedicated safety, and risk management staff. Cost of risk should also include a portion of cost for the work that maintains equipment and infrastructure. Without maintenance things begin to deteriorate and fail. The consequence of failure is the risk we want to avoid. The effort and expense that goes into regularly servicing equipment, inspecting facilities and repairing roofs or vital equipment is also a cost of risk.

The elements of an effective maintenance program for any equipment, process or facility include:

- ◆ Regular inspection of the equipment or facility including buildings and other structures.
- ◆ Reporting system for needed repairs.
- ◆ A schedule of maintenance actions including daily



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checklists and regular servicing based on mileage or service hours.

- ◆ A system for evaluating need and timing for complete replacement.
- ◆ A system for accumulating needed capital for maintenance and replacement. An example is the “Internal Service Fund” mechanism used for fleet replacement. Depreciated amounts for a vehicle are accumulated in the fund during the asset class life of the vehicle. When the vehicle is fully depreciated the fund likely has enough money to replace the vehicle.
- ◆ Use of a software system to track timing, actions and cost of maintenance and repairs.
- ◆ Use of equipment or vehicle warranty programs.
- ◆ Well trained employees who can evaluate equipment and conduct many of the maintenance procedures and repairs.
- ◆ Use of qualified repair facilities or dealerships to perform complex or extensive repairs that can’t be done in-house.
- ◆ Monitoring of other data collection systems that could give early warning of maintenance or repair issues. Water quality readings from district labs give readings about turbidity, bacteria counts, ph and other indicators that may provide early warning of needed attention to processes or systems. The daily trips canal riders make serve the same function of early detection of potential problems.
- ◆ The district should develop best practices in its policies and procedures for maintenance operations, schedules and processes. Just as any other set of district policies, these should be subject to regular review and updating (a form of maintenance).

In the event of damage or loss of equipment that is insured, prompt reporting to the Fund is essential for adjusting the claim. Insurance proceeds should be used to replace or repair the damage that occurred in the claim event. Since insurance is part of the cost of risk,

proceeds should be used to bring the district back to where it was before the loss.

The time and money spent on maintenance and repair is a cost of risk but it is also what keeps a water district functioning efficiently for the benefit of its water customers.

Lifting, Pulling, Pushing

Add reaching, grabbing, trying to maintain balance, stepping over and carrying to lifting, pulling and pushing and you have many of the physical movements that lead to strain injuries to backs, limbs, necks and joints. Strain injuries are the most common injuries faced by water district employees. They account for 19% of the number of claims and 36% of the total amounts paid and reserved during the last six complete Fund years. Out of 1,086 claims for the six year period of 7-1-2014 through 6-30-2019 there were 202 strain injury claims resulting in \$2,534,318 paid and reserved. The following table illustrates the prevalence of strain related claims (as well as other disturbing facts.) Strain injuries were the most expensive category with the second most expensive average cost per claim. The “Caught In, Under or Between” group which includes a fatality created the largest average claim cost. Districts should look at their own experience with the six major cause categories presented in the chart to begin the process of reducing your own workers’ compensation costs. Beyond the dollars, these costs include lost productivity, loss of district knowledge if someone is off work for a long period of time, and the time cost of other employees dealing with the accident, reporting the claim and keeping up with the injured worker while they are out on leave.

Cause	Number of Claims	% of Claims	Total Incurred	Average Claim
Fall, Slip, or Trip	213	20%	\$ 1,716,894	\$ 8,060.54
Strain or Injury	202	19%	\$ 2,534,318	\$ 12,546.13
Struck or Injured By	197	18%	\$ 579,516	\$ 2,941.71
Caught In, Under, or Between	37	3%	\$ 1,092,085	\$ 29,515.81
Cut, Puncture, Scrape	114	10%	\$ 331,550	\$ 2,908.33
Motor Vehicle	59	5%	\$ 474,205	\$ 8,037.37
Totals	1086	75%	\$ 7,132,394	\$ 6,567.58

Each district should determine what causes their claims and work to eliminate the conditions and behaviors that contribute to the causes. The Fund’s Risk Control Consultants have been conducting a series of Safety

TWCARMF Lost Day Strain Claims 2014 - 2019

Year	Total	Number	Average
	Lost Days	Lost Day Claims	Lost Days per Claim
2014	212	5	42.40
2015	995	8	124.38
2016	442	10	44.20
2017	1841	12	153.42
2018	414	8	51.75
2019	449	7	64.14
Totals	4,353	50	87.06

Workshops this summer that includes an analysis of these claim causes. Here is their deeper analysis of what causes strain injuries. Some of the most common actions that lead to strains are:

- ◆ Brush clearing.
- ◆ Pulling debris from canals and debris screens at head works.
- ◆ Climbing into or alighting from heavy equipment.
- ◆ Carrying too much weight by yourself (not asking for help).
- ◆ Poor posture.
- ◆ Poor mechanics of lifting.

Another cost of workers' compensation injuries is calculated as lost days from work. Think about your best backhoe operator. What is he worth per day in terms of earth or debris moved, his ability to help move heavy objects or clear obstacles to the work that needs doing? What if there was not anyone else who could do the work? Work slows or grinds to a halt. The accumulated lost days from strain injuries over the same six year period were 4,353, or over 20.7 years' worth of work days. The cost to the district of that lost time far exceeds the workers' compensation

dollar amounts paid by the Fund on your behalf when you consider all the other cost factors mentioned earlier.

The range of lost days per claim runs from 2 days to 525 days. Most employees who stay off work for over 100 days usually never come back to work, even if they are physically able. The best remedy for lengthy lost days is a return to work program that provides meaningful work that accommodates the injured worker's medical restrictions during the period of recovery.

The Fund's recommendations for responding to your own claim history in the Lifting, Pulling and Pushing category of causes include a comprehensive approach to the problem involving the people affected by the claims, supervisors, managers, engineers and human resources. The process of responding to claims and preventing them includes:

- ◆ Analysis of the specific causes of your district's claims and near misses.
- ◆ Involvement of the injured worker in explaining what happened in a no-fault discussion.
- ◆ Use of data supplied by the Fund.
- ◆ Development of specific recommendations about how to perform work that has caused injuries with prevention as well as efficiency in mind.
- ◆ Return to work program.
- ◆ Involvement and endorsement of the process by the General Manager.
- ◆ Take an ergonomics approach to the work by training for proper lifting and material movement.



Remember the basics of Lifting:

- ◆ Plant your feet firmly - get a stable base.
- ◆ Bend at your knees - not your waist.
- ◆ Tighten your abdominal muscles to support your spine.
- ◆ Get a good grip - use both hands.
- ◆ Keep the load close to your body.
- ◆ Use your leg muscles as you lift.
- ◆ Keep your back upright; keep it in its natural posture.
- ◆ Lift steadily and smoothly without jerking.
- ◆ Breathe - If you must hold your breath to lift it, it is too heavy.
- ◆ Involvement and endorsement of the process by the General Manager.

We all know how to lift improperly. It's usually because the object is too heavy, it's too high or too low and we're in a hurry. If you encounter any of these "Do Not's" stop the lift, reassess and get help:

Do Not...

- ◆ Lift from the floor.
- ◆ Twist and lift.
- ◆ Lift with one hand (unbalanced).
- ◆ Lift loads across obstacles.
- ◆ Lift while reaching or stretching (especially from over your head).
- ◆ Lift from an uncomfortable posture.
- ◆ Don't fight to recover a dropped object.
- ◆ Don't hold your breath while lifting - GET HELP.

The Fund's Risk Control Consultants can help you with safe lifting and the ergonomic principles involved. They can also help you implement a return to work program that will help you keep good employees and reduce lost productivity

and workers' compensation claim costs. Also, be aware that everyone in your organization is exposed to lifting and other ergonomic hazards that can cause strains, sprains and other serious injuries. If you need help with any of these issues, don't hesitate to call your Risk Control Consultant.

Risk Management Briefs

Easement and Right of Way Issues

Texas water districts and river authorities have thousands of miles of easements all across the state for water transmission lines, irrigation laterals, drainage ditches and irrigation canals. Lengthy pipelines may cross the property of dozens of landowners, many of whom may not be aware of the right of way and the district's necessity to come on their land. Some landowners in the Rio Grande Valley even go so far as to put fences and gates across canal banks. Sometimes livestock are staked on a canal bank for grazing. Another factor that creates encroachments and may prevent district access to their easements is residential and commercial development in formerly agricultural areas. Sometimes this lack of knowledge or a mis-understanding may create dangerous situations for district employees who are confronted by landowners who think they are trespassing. Recent situations have involved a landowner pulling out a shotgun in a confrontation with a district employee trying to read a meter on their right of way. Another district faced the issue of a property owner having built about half of his residence on a right of way without permission. To help reduce friction about right of way issues here are some suggestions:

- ◆ In the event of a confrontation (with or without firearms), district staff should leave the area immediately and consult with management about the best course of action. If there is an immediate need to access district equipment or facilities in the right of way or make repairs, enlist local law enforcement to accompany district employees onto the land if the landowner is still resistant after you have provided him with information about the easement.
- ◆ District employees should be aware of and trained in proper response to landowner confrontation. Any initial effort to communicate the district's

right to be on the easement that is met with resistance should result in an immediate exit from the property without anger or further attempts at communication. Treat the owner with respect and just leave. Report the incident to the General Manager and allow a resolution to take place before returning to the location.



- ◆ If the need for access is not urgent, communicate with the landowner and remind them of the existence of the easement or right of way and the district's need to check on their property. This can take the form of a written notice or more direct communication with the landowner. If the land is leased, the current occupant may not be aware of the easement. Contact the owner and make sure he or she has informed the lessee about the easement.
- ◆ Additional outreach by the district might have a positive effect in reducing the obstacles that crop

up on easements and canal banks. Public relations efforts could include press releases, public hearings, mailing of flyers or brochures outlining district policies and personal contacts with property owners. Prior notification of mowing or maintenance operations could help reduce the prevalence of illegal gates, fences and staked grazing. With an email blast districts could notify property owners along a stretch of canal banks or other right of way that repairs, construction, mowing or other maintenance would take place in their area over a certain span of days and they should remove livestock and make sure district employees and equipment had unimpeded access for the work.

- ◆ A map of district easements, canals, ditches, pipelines, properties and other infrastructure should be readily available to the public to help them identify these areas.
- ◆ Where possible easements should be identified with signage.
- ◆ When ownership of property changes the easements should be described in the sale documents and the new owners notified of the easement by the district.

The growth of residential and commercial development in many areas, as well as the frequency of ownership changes make the notification of the existence of easements a daunting task in some districts. Just finding out about a change of ownership or new residential or commercial development can be difficult. The use of GIS systems and web based connections to information about legal activity such as deed filings, building permits or multiple listing service filings can help. An audit function by the district to confirm ownership and easement issues conducted on a regular basis could help keep the list up to date. Changes in a district's own list of water and sewer customers, well permittees and irrigation customers also helps keep track of easement and right of way agreements and ownership changes. An audit of customers and landowners with easements should be conducted at regular intervals. The easement records should also keep track of the entities and individuals that have easements across district land and rights of way.

Some types of easements and rights of way also may require

special treatment. Railroad rights of way can be particularly problematic with their insurance requirements and lack of flexibility. Contact the Fund with any unusual requests that railroads, cities, counties or other entities may have.

FLSA Changes in 2019

Since 2014, the U.S. Department of Labor has been trying to raise the exemption level for overtime pay from its current level of \$23,660. First, a level of \$47,000 was proposed during the Obama administration. That was struck down by the courts in 2016 and a new rule began working its way through the Department of Labor's Wage and Hour Division. In March 2019, they proposed a new rule which was recently sent to the White House for review on August 12, 2019.



The proposed new threshold is \$35,308 (\$679 per week). Any worker who does not make more than this amount would have to be paid time and a half, regardless of their classification as an exempt employee. The \$679 per week amount is aligned with the 20th percentile of earnings of full-time salaried workers in the lowest-wage census region (then, and now, the South) and in the retail sector.* The definitions of exempt or nonexempt do not change under this rule. The threshold amount will be subject to revision every four years to keep track with inflation and real wage growth. The last time the threshold was raised was in 2004. More frequent revision of the wage threshold should reduce some of the shock effect that the proposed changes created when the first proposals were made in 2014.

The rule also recognizes that some employees receive part of their pay as commissions or bonuses. Employers may use bonus or commission amounts to satisfy up to 10% of

the threshold amount. For example, if an employee makes only \$34,000 a year they are subject to receiving overtime pay under the proposed rule. If they were paid an additional amount of \$2,000 in bonus or commission they would exceed the \$35,308 threshold. Districts should examine pay levels to determine if it makes sense to raise salaries to avoid having to pay overtime to employees who are already near the new threshold. Many districts went through this process when the previous attempt to change the threshold was proposed.

The Department of Labor estimates that the new threshold will bring an additional 1.2 million employees under the overtime rule. Districts should examine their pay levels and classification policies to see if they are affected by the new rule. The rule is expected to go into effect in January of 2020.

Sources: U.S. Department of Labor Wage and Hour Division, *Sheppard Mullin Labor and Employment Law Blog, March 8, 2019, ADP Spark Newsletter, "What you Need to Know About Proposed Overtime Rule Changes," 2019

Recent Developments in the AWIA 2018

In August of 2019 the Environmental Protection Agency issued guidance about the AWIA. They reaffirmed the timelines regarding utilities serving large, medium and small populations, beginning in March 2020 for "large" utilities serving over 100,000 people.

Size	Utility Population Served*	Estimated # of Community Water Systems	Risk & Resilience Assessment	Emergency Response Plan
Large	>100K	435	March 31, 2020	September 30, 2020
Medium	50 - 100K	594	December 31, 2020	June 30, 2021
Small	3,300 - <50K	8,295	June 30, 2021	December 30, 2021

*including population of wholesale customers

Freese and Nichols article "EPA Releases Aug. 1 Baseline threat Guidance"

The EPA's guidance document describes itself as "not a threat analysis for a specific system," but to provide a "baseline information regarding malevolent acts or relevance to community water systems."

The guidance contained in “Baseline Information on Malevolent Acts for Community Water Systems” includes recommendations for assessing risk and resilience, asset categories, threat categories and additional resources. The document also focuses on “Threat Categories and Likelihoods of Malevolent Acts. The primary EPA threat categories include:



- ◆ Assault on Utility – physical
- ◆ Contamination of finished water – accidental
- ◆ Contamination of finished water – intentional
- ◆ Theft or diversion – physical
- ◆ Cyber attack on business enterprise systems
- ◆ Cyber attack on process control systems
- ◆ Sabotage – physical
- ◆ Contamination of source water – accidental
- ◆ Contamination of source water – intentional

The guidance is a good starting point for understanding the scope of the initial assessment and how to proceed to the emergency response planning process.

Last Chance Safety Workshop

The series of Safety Workshops conducted by the Fund’s Risk Control Consultants has been well attended this spring and summer. This seminar is designed for all water district or authority personnel with safety responsibilities including safety or risk management staff, project managers, management, and supervisory personnel. Non-members are not eligible to attend. Topics of the workshop are Current TWCARMF



Claim Trends, Driving Safety, Lockout/Tagout, and Strains, Sprains and Ergonomics. Each Seminar begins at 9:00 a.m. and concludes at 4:00 p.m. Lunch and snacks will be provided.

- ◆ The last workshop is scheduled in Weslaco on November 7, 2019. It will be held at the Tropical Texas Behavioral Health Training Center at 2215 W. Business 83 in Weslaco.

Please register for the workshop online at www.twcarmf.org. Registration is required so we will have enough food and workbooks. If you have questions or need assistance please contact Kathy Hulse at 800-580-8922 extension 12420 or kathy.hulse@yorkrsg.com.

