



WISCONSIN COUNTY MUTUAL INSURANCE CORPORATION & COMMUNITY INSURANCE CORPORATION

THE PROTECTOR

A QUARTERLY PROPERTY LOSS CONTROL NEWSLETTER

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BUILDING & EQUIPMENT MAINTENANCE PROGRAMS

Buildings and equipment will fail over time. The failure can have a catastrophic impact on your operations. Strong maintenance programs seek to circumvent failure and unplanned equipment outages by controlling the aging process. Those maintenance programs contain formal and fully documented processes and procedures which provide the foundation for sustainable actions that will minimize the scope and consequences of related losses.

A maintenance program should show indisputable management support and be led by a qualified individual who has in-depth knowledge and understanding of the equipment, service systems, and production systems vital to the organizational operations. The individual should be assigned the responsibility of developing detailed written plans and place a proactive vision around the program. Additionally, the individual must be granted sufficient stature and authority within the organization to be credible in disputes and move the program forward.

The maintenance team must have complete data on important production equipment; i.e., specifications and drawings, plans, etc. The data should be stored in a safe area and duplicated electronically for backup. Also, an adequate spare and/or replacement parts inventory should be maintained with a focus on lean principles. This will ensure a detailed and organized inventory is maintained with appropriate storage for sensitive and difficult to obtain parts. Maintenance staff should maintain the inventory list and identify

suppliers who can easily replicate the parts in an expedited manner.

Safety should not be overlooked as maintenance can be scheduled or unscheduled. Individual operators of equipment need to be educated on the hazards associated with their position, including the equipment. Familiarize employees with safety controls and train safe operation through the use of job safety analysis (ask your Loss Control Consultant for this resource).

Programs that have proven effective are based upon the principles of steadfast maintenance. They contain but are not limited to components of breakdown maintenance, preventative maintenance, and planned maintenance.

Breakdown Maintenance refers to the practice of operating until failure occurs. Maintenance of this category is known to frequently occur when production demands are the greatest and results in premium time vs. straight time paid to staff. While a key component to maintenance programs, breakdown should be restricted to equipment in which parts are considered expendable/easy to obtain and where the failure will not cause significant consequences or extended outages. Remember, fire is a hazard associated with this type of maintenance. Be sure to assess the equipment, local fire protection, and the potential for fire to spread throughout the equipment to wiring and control panels as well as neighboring equipment.



Wisconsin County Mutual Insurance Corporation



ABOUT THE COUNTY MUTUAL

The Wisconsin County Mutual Insurance Corporation (County Mutual) provides public entity liability, workers' compensation, and property insurance solely to Wisconsin counties.

ABOUT COMMUNITY INSURANCE CORPORATION

Community Insurance Corporation (CIC) provides liability, workers' compensation, and property insurance to Wisconsin school districts and local units of government.

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BUILDING & EQUIPMENT MAINTENANCE PROGRAMS

CONTINUED

Preventative Maintenance is the opposite of breakdown maintenance. This is maintenance that prevents or, at minimum, attempts to minimize maintenance. It is best to first focus efforts on difficult to obtain equipment such as foreign and/or specialized, expensive equipment, or equipment that can cause a bottleneck. Then, expand to other less important pieces of equipment. Preventative maintenance includes operator training, inspection through a written checklist, defined schedules, and a process of record retention. Operators must be provided the knowledge to assess equipment by looking and listening for problems. The problems must be communicated to the facilities/maintenance department as soon as they are recognized for immediate attention and repair. Periodic and routine inspection through a written checklist should be developed. These should occur on a defined schedule with the records retained for future use. While there is no one-stop checklist for each piece of equipment, most have common characteristics that should be included in the inspection. Items such as lubrication, testing safety features and alarms, changing filters, cleaning drains, and tightening nuts and bolts can be incorporated. Check the OEM specifications; they've designed the product and are likely obligated to inform you of maintenance best practices for safety and operation.

Planned Maintenance refers to maintenance that is scheduled based on elapsed time or a specific number of operating cycles. Commonly, planned maintenance processes are established for buildings and equipment that must be deactivated to permit the maintenance to be conducted.

The frequency at which this type of maintenance occurs is vital to success. If the timeframe between performances of maintenance is too long, breakdown maintenance occurs. If the timeframe between performances of maintenance is too short, the task becomes unimportant and is performed in apathetic fashion. This again results in breakdown maintenance as the planned maintenance may not be conducted. Be sure to analyze how essential the equipment is to your organization and

the consequences of its failure, follow OEM guidelines, previous inspection/failure history and results, requirements established by jurisdictional authority, age and service use, other known factors when determining the planned maintenance schedule.

Further, planned maintenance should be established for all critical buildings and equipment. Examples of these types of buildings and equipment include but are not limited to: vital production equipment, jurisdiction required such as boilers, pressure vessels, refrigeration systems, and steam pipes, electrical equipment including wiring, transformers, and circuit breakers, and fire protection equipment.

Ultimately, the objective of building and equipment maintenance is to keep a facility safe and operational. A steadfast maintenance program will employ multiple techniques to prevent losses and to minimize the scope and consequences of those that do occur. Such a program will also minimize maintenance and repair expenses.

A strong maintenance program will reduce costs because it will:

- Anticipate failures, allowing downtime to be scheduled when it will cause the least disruption.
- Assess the consequences of failures, allowing maintenance resources to be targeted at minimizing the probability of occurrence of the worst consequences.
- Prevent failures if the consequences are intolerable or more costly than the effort to prevent them.
- Expedite repairs in the most effective way and identify alternate means of production to be used when failures occur.
- Identify building and equipment hazards, creating a safe work environment less prone to injury and/or illness.
- Provide the tools for self-diagnosis and correction where the program is ineffective.

BREAKDOWN / PREVENTATIVE / PLANNED MAINTENANCE

BREAKDOWN MAINTENANCE refers to the practice of operating until failure occurs. This is commonly acceptable when replacement equipment is easy to obtain and repair processes are simple.

BREAKDOWN

PREVENTATIVE MAINTENANCE is the opposite of breakdown maintenance and attempts to minimize maintenance. This includes employee training on operating equipment, inspections, and routine preventative measures, such as lubrication, bolt tightening, and filter changing.

PREVENTATIVE

PLANNED MAINTENANCE refers to maintenance that is scheduled based on elapsed time or a specific number of operating cycles. This is commonly acceptable for equipment that operates during specified times, and downtime to repair will have no impact on operations or production.

PLANNED

CHIEF'S CORNER



CHIEF STEVEN HOWARD CITY OF WAUKESHA FIRE DEPARTMENT

The **City of Waukesha Fire Department (CWFD)** provides 24-hour fire suppression, paramedic (ALS), basic life support (BLS), technical rescue, and hazardous materials response to the City of Waukesha and actively participates in the MABAS mutual aid system in Waukesha County. Additionally, we provide contracted hazmat level services and technical rescue services to all of Waukesha County. The City of Waukesha is a full-time, career fire and EMS department. The Department consists of 105 members and 3 different divisions (fire prevention, fire suppression and administration). Calls for service are provided for from five fire stations that are staffed, daily, with a minimum of 26 persons on duty. In 2019, the average total response time (time of 9-1-1 call answered to arrival on scene) to emergency calls for service was 6 minutes; and 83.80% of the calls were responded to in less than 7 minutes and 30 seconds. The fire suppression division operates two ladder trucks (quints), three fire engines, and five ambulances. Daily, we provide five paramedic service units from our fleet of ambulances and fire engines. In 2019, the Department responded to 8,105 incidents and conducted over 3,500 fire prevention inspections.

The CWFD received a grant in 2019 to enhance our public fire prevention efforts in our community. The Safe Community Program was created based on the City's strategic goals for 2019; safe and secure, customer focused, and vibrant neighborhoods and business areas. The funding from this grant allowed us to:

- Update materials used for the Fire Safety House and Kindergarten Prevention Programs which serve over 2,400 students every year,
- Purchase combination smoke and carbon monoxide detectors for residents in need,
- Start a program to communicate with property owners surrounding a property that had a fire and provide them with Smoke Alarms Save Lives door tags and detectors as needed; and
- Purchase the needed supplies to provide Hands-only CPR training at community events.

All focus areas of the Safe Community Program center around a common theme of having a plan to respond to an emergency that can occur at a home, place of business or public places.



"The main objectives of the Safe Community Program are to prevent fires through education and reduce injuries and the loss of life in our community. The CWFD takes great pride in the fire prevention awareness programs they provide to the schools, business owners, residential establishments and more"

- ASSISTANT CHIEF JOSEPH HOFFMANN

Based on information gathered from the emergencies in our community, the following tips will help keep you and your family safe while at home, work or in public places:

- Do not delay in dialing 9-1-1 when a fire or medical emergency occurs.
- Learn "Hands only" CPR and consider purchasing AEDs for businesses and public places.
- Install, maintain, and test smoke detectors, carbon monoxide detectors, and fire alarm systems.
- Have a plan to quickly and safely exit a building when a fire alarm sounds and practice it regularly.
- Once you have exited a building during a fire, NEVER go back in the building.

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WHAT DO YOU NEED TO KNOW



REPLACEMENT COST v. ACTUAL CASH VALUE

FOR EXAMPLE

Here's a fictional example of how policies with different valuation methods could reimburse a loss:

Your two-year old Ford Explorer Police Interceptor was destroyed in a single vehicle collision. A new, similar vehicle could cost around \$33,000. How much would each type of policy reimburse you?

- **Replacement cost value** would either pay the \$33,000 outright or pay the depreciation value and refund the difference once you send in the purchase receipt.
- **Actual cash value** would use the depreciation amount. A rough payout could start at around \$21,000.

Read your insurance policy. Be educated. Partner with us.
Reduce your total cost of risk.

Property insurance policies value property at either replacement cost or at actual cash value. **Replacement cost** is the cost of replacing lost or damaged property with new property of like kind and quality, or its functional equivalent, at current prices. **Actual Cash Value (ACV)** is the cost to replace property with new property of like kind and quality less depreciation. Less depreciation is the difference. The majority of property has its highest value when new. Subsequently, the property value decreases, mainly because of physical wear and tear, age, obsolescence, and use.

How could this impact your claim?

Property insured for replacement, regardless of age or if its replacement cost exceeds the original purchase price, the insured is entitled to the current cost to replace the property. While, property insured for actual cash value is the depreciated value of an item of property at the time of the loss. This type of settlement does not allow you to replace what you've lost with new without your own financial contribution. Rather, it compensates you for the value of replacement cost less depreciation or market value or value through the broad evidence rule (consideration of all factors; i.e., depreciation, market value, replacement cost, use, obsolescence, income derived from the property, etc.).

You may think insuring property valued at replacement cost is the best option. Subjectively, in most cases it is the best option. You will be entitled to new property of like, kind and quality in a claim scenario. However, insuring property valued at actual cash value is also beneficial; e.g., you wish to lower your auto physical damage premium or have no desire to rebuild/replace/repair the automobile after a collision. What's important to remember is both options have their individual pluses and minuses. Your individual situation will dictate the best valuation method.

Not sure what valuation method fits your needs or is currently utilized for your property? Do you have questions?

Contact your Underwriting and/or Loss Control department representatives at the County Mutual/CIC. We are happy to discuss the property policy provisions and answer whatever questions you may have.

What's up next quarter?

Insurable interest: What is it? Why is it important? How do I manage it?

This material does not amend, alter, or otherwise affect, the provisions or coverages of any insurance policy or bond issued by WCMIC or CIC, nor is it a representation of coverage that does or does not exist for any particular claim, loss or dispute under any such policy or bond. Coverage depends on the facts and circumstances involved in the claim, loss, or dispute, all applicable policy or bond provisions, and any applicable law.

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LESSONS LEARNED: ELECTRICAL FIRES

Let's review two separate incidents where heavy construction equipment experienced electrical fires. In each instance the electrical fires destroyed the unit of machinery and in one case building damage occurred as the equipment was located inside a facility.

Old or defective wiring and loose connections was the major source of both electrical fires. While all wiring has exposure to breakdown, the wiring on these types of heavy equipment were exposed to the outdoor environment, causing them to break down more quickly than wiring in indoor, non-corrosive environments. The wiring was found to have deteriorated insulating sheathing as well as loose and corroded connectors and wires. These types of electrical hazards created "hot spots" due to excessive heat within electrical components that led to electrical fires.

Electrical fires can be easily prevented through proper maintenance plans and by training employees on the overall hazards of working with or near electricity. "Hot spots" created through hazards such as old or defective wiring, loose connections, or corroded connectors or wires can occur in both equipment and facility electrical components. Therefore, the lessons learned from these two incidents involving heavy equipment can be applied to all types of electrical components in your equipment as well as your facilities.

"Infrared thermal imaging" using a hand-held thermal scanner pointed at the electrical components is an effective way to identify "hot spots" before they cause an electrical breakdown that can result in a fire. Larger organizations with qualified personnel may consider purchasing their own thermal scanner and provide specialty training to one or more employees on how to use the scanner and interpret the results, whereas, smaller organizations may hire a consultant to perform inspections. The American Society for Non-



Destructive Testing has developed a certification program that can be used for training staff or evaluating consultants.

It is not only important that an effective method is developed for identifying electrical "hot spots" but also that it is incorporated into a planned maintenance schedule for equipment and facilities throughout your organization. Organizations should assess their electrical demands to determine a reoccurring schedule of when thermographic scans should be completed. Based on those scan results, a schedule to rescan should be based on the types of equipment, power consumption and age of electrical systems.

A secondary issue identified with one of the heavy equipment incidents was that the equipment did not contain a master disconnect switch. This switch is designed to immobilize the complete electrical system of a piece of equipment when it is at rest and not in operation. If an organization is in possession of equipment that does not possess a master disconnect switch, the electrical components may be at a higher risk for causing a fire if one of the potential hazards identified above exists. Even if an organization is in possession of equipment that are equipped with master disconnect switches, it is important that the operation of these switches are continuously inspected and maintained in order to immobilize the complete electrical system when the equipment is not being used and reduce the risk of a fire.

Specific product standards and safety procedures relating to these points are set forth in various federal and state requirements. The Occupational Safety and Health Administration (OSHA) and National Fire Protection Association (NFPA) address work on live electrical components and provides a listing of maintenance and equipment testing intervals.

INFARED THERMAL SCANNERS

Infrared thermal scanners are an essential tool when inspecting equipment for "hot spots" that cause electrical breakdown that leads to fire. There are many choices in thermal scanners - from cost-effective hand-held models to high definition cameras. When considering purchasing a thermal scanner, what you end up selecting will be based on cost, intended use, and level of specialized technology.

