

MILWAUKEE FIRE DEPARTMENT
Operational Guidelines

Approved by: Chief Mark Rohlfing

2012

32.0 – WATER (Water Leak)

Units Dispatched: **(T or R) or E**

GENERAL

WATER (Water Leak) assignments are dispatched any time a caller reports what they feel to be a damaging water leak impinging on or inside their place of business or residence. Water leaks can occur for a variety of reasons affecting numerous water appliances within a structure. These incidents have the potential to create loss of property use due to structural damage and/or health concerns (mold, mildew, bacteria), resulting in temporary or permanent displacement of occupants and the shutdown of business operations. Electrical components and wires being exposed to water can create a fire hazard, as well as an electrocution hazard. Shorted electrical circuits can cause sparks that can easily set fire to insulation, wood, and drywall. As soon as the leak has been found, the power should be shut off to the affected portion of the structure to reduce the risk of fire and electrocution.

Water leaks typically require a thorough investigation to pin down the source of the leak. This investigation may be simple or extremely difficult, based on the size and occupancy of the building and the information obtained. The first piece of the on scene investigation is to figure out if the leak is originating from an interior pipe/appliance or if water is entering the structure via the exterior (roof/foundation). Water entering from the exterior can be the result of rainfall, flooding, clogged gutters, an operating residential hose, a swimming pool leak, underground pipe corrosion/failure, or any other condition. The goal for personnel is to try to figure out the cause and mitigate the emergent situation as able and then refer the owner/occupant to a “proper authority” for repair.

Water leaks originating from the interior can be difficult to pinpoint without valid owner/occupant information. Blocked drains, icemakers, water heaters, humidifiers, faucets, toilets, washing machines, dishwashers, and plumbing pipes (cracked, deteriorated, or frozen) are all potential points of consideration. Again, the goal for personnel is to try to figure out the cause and mitigate the emergent situation as able and then refer the owner/occupant to a “proper authority” for repair.

The quickest and most effective initial mitigation technique with a substantial water leak of unknown origin inside an occupancy is to simply shut down the main water supply to the structure and safely secure the electrical to the affected area(s) of the structure. The main water supply will usually have a shutoff valve (**hand wheel**) near the water meter and be located in the basement on the street side of the building. It is essential to fully open at least one cold water discharge as low as possible within the structure (such as a utility sink) after shutting down the main water supply. This action will relieve the pressure from the water lines and fully drain any stagnant water still in the lines, stopping the damaging loss of water at the leak site.

A better and more professional alternative, if quickly able, is to locate the cause of the leak and shut down the isolation valve (if equipped) to the leaking pipe/appliance. It is a safe

practice to first isolate and shut down any electrical (circuit breaker) and/or gas feed to the leaking appliance. Work with knowledgeable owners/occupants or business maintenance staff to expedite this process.

The shutoff valves in multiple dwelling and commercial buildings can be found in unpredictable locations, often requiring the assistance of building maintenance or management staff. MFD companies should not indiscriminately shut down valves in these larger structures. The source pipe or affected occupancy needs to be located to limit disruption to other occupants and/or commercial processes. MFD companies should practice good salvage operations, including capture or diversion of water flow, until the situation is controlled in order to limit the damage.

If an exterior sprinkler system alarm gong is activated, forcible entry is indicated. This indicates a positive waterflow somewhere in the system, the most serious cause of which would be a sprinkler head activated due to a fire. As you are investigating, listen and feel sprinkler risers as you pass them; often, you can hear a humming sound and feel a vibration if the riser is flowing water. This will help you locate and isolate the location of the activated sprinkler(s). Although you can certainly shut down the flow of water from a sprinkler head, using [door chocks](#) or [sprinkler tongs](#), never shut down the building's sprinkler system in full.

The company officer shall make the determination if the structure is safe to reoccupy once the situation has been mitigated. WE Energies Electric and/or Gas must be notified if any power is shut down. If there is a question regarding the structural integrity of a building due to the added weight of the water, the Department of Neighborhood Services (DNS) should be notified. Similarly, the Milwaukee Health Department must be notified anytime water has leaked onto food or beverage items meant for resale. If it is determined that a malicious release of water has occurred resulting in damage to property or commercial processes, request the Milwaukee Police Department (MPD) to investigate further. Finally, if the source of water cannot be located or shut down by MFD personnel, request a response from Milwaukee Water Works.

TRUCK

OFFICER Tools: Full PPE , portable radio , flashlight, halligan tool Duties: Assume Command and investigate, water flow diversion
HEO Tools: Full PPE , portable radio , axe , 6' pike pole , squeegee Duties: Investigation, Water shut off, Electrical shut off
VENT Tools: Full PPE , portable radio , axe , sprinkler kit , 10' pike pole Duties: Investigation, Water shut off
FORCE Tools: Full PPE , portable radio , toolbox , flathead axe , salvage cover Duties: Investigate with officer, Force entry as needed, water flow diversion

The Truck Officer will assume Command and report conditions and needs on the dispatch talk group. The Officer shall attempt to make contact with the caller or maintenance staff regarding the nature and location of the water leak and to gain access into the structure. In cases where no keyholder is available and the building is secured, attempts should be made to locate a KnoxBox to access the interior (check the run sheet for KnoxBox information). If no keyholder is available or the structure is vacant, and water can be heard or seen flowing into or within a structure, forcible entry is indicated. Any time access to a building is obtained via forcible entry, request "10-53 for forcible entry" via MFD Dispatch, so that the Milwaukee Police Department can secure the building upon our departure. Further, if on arrival, evidence of a break-in is found, use caution and request 10-53 for investigation.

The Truck Officer will investigate with the Force FF to find the source of the leak and, if able, shut down the isolation valve to the source pipe/appliance. The Officer will communicate with the Truck HEO via the incident scene talk group if more specialized tools are required or if the main water supply needs to be secured. The Officer should not hesitate to special call for additional MFD companies as needed to assist in the investigation, mitigation, or property conservation of larger buildings.

The Truck HEO will operate as directed by the Truck Officer. The HEO may be tasked with securing the electric and finding the main water supply shutoff (usually in the basement on the street side of the building), communicating with the Officer to determine whether to secure the main water supply. The Truck HEO may also be sent with the Vent FF to investigate the leak/damage on the floor(s) below the source location and to begin salvage operations, including capture or diversion of water flow.

The Vent FF will operate as directed by the Truck Officer. The Vent FF may be assigned to travel with the HEO to find (and secure?) the main water supply shutoff or for investigation and salvage operations on the floor(s) below the source location. The Vent FF could also be assigned to stop a flowing sprinkler head utilizing [sprinkler tongs](#) and [wedges](#).

The Force FF will operate as directed by the Truck Officer. The Force FF will usually be assigned to investigate with the Officer for the leak source and mitigate as able. The Force FF may be directed to shut down the isolation valve to the source and/or salvage operations, including capture or diversion of water flow and protection of personal belongings (moving or covering).

Once the water leak is controlled, overhaul operations may be indicated to determine the extent of and to prevent further damage.

ENGINE

OFFICER Tools: Full PPE , portable radio , flashlight, halligan tool Duties: Assume Command and investigate, water flow diversion
HEO Tools: Full PPE , portable radio , axe , 6' pike pole , squeegee Duties: Investigation, Water shut off, Electrical shut off

NOZZLE

Tools: Full PPE, portable radio, axe, 10' pike pole

Duties: Investigation, Water shut off

BACKUP

Tools: Full PPE, portable radio, toolbox, flathead axe

Duties: Investigate with officer, Force entry as needed, water flow diversion

The Engine Officer will assume Command and report conditions and needs on the dispatch talk group. The Officer shall attempt to make contact with the caller or maintenance staff regarding the nature and location of the water leak and to gain access into the structure. In cases where no keyholder is available and the building is secured, attempts should be made to locate a KnoxBox to access the interior (check the run sheet for KnoxBox information). If no keyholder is available or the structure is vacant, and water can be heard or seen flowing into or within a structure, forcible entry is indicated. Any time access to a building is obtained via forcible entry, request "10-53 for forcible entry" via MFD Dispatch, so that the Milwaukee Police Department can secure the building upon our departure. Further, if on arrival, evidence of a break-in is found, use caution and request 10-53 for investigation.

The Engine Officer will investigate with the Backup FF to find the source of the leak and, if able, shut down the isolation valve to the source pipe/appliance. The Officer will communicate with the Engine HEO via the incident scene talk group if more specialized tools are required or if the main water supply needs to be secured. The Officer should not hesitate to special call for an MFD Truck as needed to address forcible entry issues or to assist in the investigation, mitigation, or property conservation of larger buildings.

The Engine HEO will operate as directed by the Engine Officer. The HEO may be tasked with securing the electric and finding the main water supply shutoff (usually in the basement on the street side of the building), communicating with the Officer to determine whether to secure the main water supply. The Engine HEO may also be sent with the Nozzle FF to investigate the leak/damage on the floor(s) below the source location and to begin salvage operations, including capture or diversion of water flow.

The Nozzle FF will operate as directed by the Engine Officer. The Nozzle FF may be assigned to travel with the HEO to find (and secure?) the main water supply shutoff or for investigation and salvage operations on the floor(s) below the source location. The Nozzle FF could also be assigned to stop a flowing sprinkler head utilizing [wedges](#).

The Backup FF will operate as directed by the Engine Officer. The Backup FF will usually be assigned to investigate with the Officer for the leak source and mitigate as able. The Backup FF may be directed to shut down the isolation valve to the source and/or salvage operations, including capture or diversion of water flow and protection of personal belongings (moving or covering).

Once the water leak is controlled, overhaul operations may be indicated to determine the extent of and to prevent further damage.