



# Risk Management Services

## COMBAT PIPE FREEZE WITH PHLY'S POINT STRATEGY

Winter weather can be difficult to forecast. However, one thing that's certain is that freezing temperatures will hit each year, resulting in pipes freezing, breaking, and subsequent water damage to thousands of businesses throughout the U.S. Sub-freezing temperatures have been experienced in all 50 states, leaving virtually no region immune to this exposure. Fortunately, pipe and plumbing freezes can be prevented and controlled by using PHLY's POINT strategy, a five step process developed by PHLY's Risk Management Services (RMS).

# POINT

## PREPLAN

There are basic steps all organizations should take before freezing weather conditions hit their area:

| <input checked="" type="checkbox"/> | Preplanning Step                             | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Additional information                                                                                                                                                                                                  |
|-------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>            | Conduct an infrared survey                   | An infrared survey, using a thermographic camera, can help identify air drafts and other areas vulnerable to freezing exterior temperatures. This heat-sensing camera can produce digital photos with thermal readings. Action can then be taken to weatherize your building in the areas that will produce the most impact.                                                                                                                                                 | PHLY's RMS can help arrange for this service. For more information see: <a href="http://energy.gov/energysaver/articles/thermographic-inspections">http://energy.gov/energysaver/articles/thermographic-inspections</a> |
| <input type="checkbox"/>            | Test building systems                        | Boilers, furnaces, and hot water heaters should be inspected and serviced prior to winter. Also, inspect and test any other freeze control devices, such as temperature monitors, water detection devices, and water flow monitors. If your fire sprinkler system uses antifreeze for piping in cold areas, have the solution tested for proper concentration. Dry pipe fire sprinkler systems should be fully drained. Ensure all systems have properly functioning alarms. | For antifreeze fire sprinkler system requirements, see: <a href="http://www.plumbingengineer.com/may_11/antifreeze_feature.php">http://www.plumbingengineer.com/may_11/antifreeze_feature.php</a>                       |
| <input type="checkbox"/>            | Make necessary repairs and new installations | Conduct your winterization inspections in fall months to allow sufficient time for appropriate repairs and/or new installations. Ensure that these are listed on your ongoing preventative maintenance schedule.                                                                                                                                                                                                                                                             | Access PHLY's Winter Weather Checklist for additional review items                                                                                                                                                      |

# PHLY'S POINT STRATEGY - *continued*

## **OUT** – keep cold out

One simple, but often overlooked, step is to fortify your building to keep the cold elements out:

|                          | Keep cold out                          | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Additional information                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Seal your building envelope            | Take the results of your infrared survey and physical inspections of your building and reinforce gaps in the building envelope with caulk, spray foam sealant, or other materials to keep cold drafts out.                                                                                                                                                                                                                                                                                 | For more information, see: <a href="http://www.aceee.org/consumer/building-envelope">http://www.aceee.org/consumer/building-envelope</a>                                                                                                                                                                                                                                        |
| <input type="checkbox"/> | Add insulation                         | Inspect attics, basements, crawl spaces, and exterior walls to determine if additional insulation is needed.                                                                                                                                                                                                                                                                                                                                                                               | Residential: <a href="https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_insulation_table">https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_insulation_table</a><br><br>Commercial: <a href="http://www.iccsafe.org/gr/Documents/IECC-Toolkit/2009 IECC Update.pdf">http://www.iccsafe.org/gr/Documents/IECC-Toolkit/2009 IECC Update.pdf</a> |
| <input type="checkbox"/> | Install temperature monitoring devices | Temperature monitoring devices can be the size of a coin, can be wireless, and can send real-time alerts if ambient temperatures fall below a set limit. These devices can be relocated as needed and can help identify problem areas so that action can be taken before pipes freeze. You can integrate these devices with your building alarm systems and can monitor them via web-interface or smart phone apps. Prices range from \$300 - \$600 for basic installation and monitoring. | PHLY has pre-qualified two vendors who sell and monitor these devices:<br><br>Monnit <a href="http://www.monnit.com">www.monnit.com</a><br><br>Temperature Alert <a href="http://www.temperaturealert.com/">http://www.temperaturealert.com/</a>                                                                                                                                |

## **IN** – keep warmth in

Most buildings generate enough heat to keep pipes and plumbing fixtures from freezing, if these measures are observed:

|                          | Keep warmth in                            | Explanation                                                                                                                                                                                                                                                                                                                                      | Additional information                                                                                                                   |
|--------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Direct heat to all areas with water pipes | Heating ducts and vents should be located and directed so that all areas with water lines and fixtures are maintained at a minimum of 45° F. Portable heaters should be used only temporarily and with proper fire safety measures in place.                                                                                                     | Use of an infrared survey and temperature monitoring can identify areas in need of additional heat                                       |
| <input type="checkbox"/> | Keep water lines warm and moving          | Keep kitchen and bathroom cabinet doors open. Allow water to slowly run during severely cold weather events. If the water pipes freeze, an open water outlet will help relieve pressure and possibly prevent a pipe breakage.                                                                                                                    | Run both hot and cold water lines.                                                                                                       |
| <input type="checkbox"/> | Insulate water lines with foam insulation | If ambient temperatures are at risk of dropping below 45° F, or if the piping is subject to cold air drafts, use foam insulation around water pipes.                                                                                                                                                                                             | Start with pipes along exterior walls, or in poorly heated attics, crawl spaces, and basements                                           |
| <input type="checkbox"/> | Use heat tracing tape or cables           | Similar to water line insulation, this may be used if ambient temperatures drop below 45° F or if the piping is subject to cold air drafts. Use heat tracing tape/cables only during time periods when severe cold weather puts your pipes at risk. Or, use heat tracing that automatically turns on and off based on their temperature sensors. | To control the fire risk, only use heat tracing that is UL listed. Inspect the heat tracing for signs of wear both before and after use. |

## PHLY'S POINT STRATEGY - *continued*

### **NOTE** water flow

Water flow monitoring devices and leak detection devices can quickly identify a burst pipe and help mitigate damage:

|                          | Note water flow                                    | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Additional information                                                                                                                                                                                                                |
|--------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Install water flow monitoring and shut-off devices | Water flow monitoring devices measure the total volume of water flow throughout a building at any point in time. If the water flow exceeds pre-set limits, the monitoring device assumes there is a pipe breakage and automatically shuts off the primary water main valve. These systems use "home" and "away" settings. The home setting allows for a higher amount of water flow for every day, normal operations. The away setting lowers the threshold for the amount of water flow allowed before the device determines there is a pipe leak and shuts down the water main. This lowered threshold can be set for nights, weekends, or however designated by the user. These devices can be tied into a building's existing alarm systems. Prices range from \$1,500 - \$3,000 per system. | PHLY has pre-qualified two vendors who sell these devices:<br><br>Flogic<br><a href="http://www.flogic.com">www.flogic.com</a><br><br>Leak Defense System<br><a href="http://www.leakdefensesystem.com">www.leakdefensesystem.com</a> |
| <input type="checkbox"/> | Install water leak sensing and shut-off devices    | These systems have sensors – either wired or wireless – that are placed near water sources or areas potentially vulnerable to pipe freeze and breakages – such as unheated crawl spaces. If water comes in contact with a sensor, an alarm is signaled and a valve automatically shuts off the primary water main. The sensors and shut-off valves can be monitored via web-interface, sending notifications to the user via email, text, or phone call.                                                                                                                                                                                                                                                                                                                                         | PHLY has pre-qualified a vendor who sells these devices:<br><br>PipeBurst Pro<br><a href="http://www.pipeburstpro.com">www.pipeburstpro.com</a>                                                                                       |

### **TAKE** action

If a pipe in your facility freezes, promptly follow these steps to help mitigate damage:

|                          | Take action                                             | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Additional Information                                                                                                                                                                                                                                                              |
|--------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Shut off main water valve(s)                            | Identify and clearly mark all water shutoff valves through the facility. Train employees on how to shut off the water valve closest to the breakage, and to do so right after a pipe breakage is identified. Exercise these shutoff valves at least once a year to ensure they will operate if needed in an emergency situation.                                                                                                                                                                                                                                                                                                                  | This step is for domestic and process water lines only – not fire sprinkler water lines.                                                                                                                                                                                            |
| <input type="checkbox"/> | Implement impairment program for fire sprinkler systems | Shutoff valves for fire sprinkler systems should never be closed unless it is clear that the water flowing is due to a pipe bursting, and not a fire. Visual confirmation is needed before closing a fire sprinkler valve. These valves may be chained and locked in their open positions. Once the valve is closed, notify your alarm company, your fire department, and PHLY of your impairment. Discontinue hazardous operations and implement an hourly fire watch for the areas affected by the impaired sprinkler system. Expedite repair work of the burst sprinkler pipe, and then bring the sprinkler system online as soon as possible. | Keep in mind that closing a main valve renders your fire sprinkler system inoperable, for the area affected by that valve. Therefore, be certain of the source of water flow before closing a fire sprinkler valve, and be cautious of all fire risks while the system is impaired. |

# PHLY'S POINT STRATEGY - *continued*

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|--------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <p>Locate ice plug and administer heat if a water line is frozen, but not burst</p> | <p>Suspect that a water pipe is frozen if little or no water flows from it. If the pipe is cracked, shut off the water supply to the affected section of piping. Have water cleanup equipment ready if needed. Identify the suspected area of the ice plug by looking first along exterior walls or for pipes that are bulging or have frost around them. Use a hair dryer to thaw the ice plug. A heat gun may be used with caution – remove all combustible material from the area first. You can wrap towels soaked in hot water or heat tape on the affected pipe area. Use space heaters cautiously, with appropriate fire safety measures. Turn up the heat in your building. Do not use a blow torch, kerosene or propane heater, or any other method with an open flame.</p> | <p>It may be likely that the frozen pipe is behind drywall or runs behind an interior wall. Cut into/open up the wall with caution. If you cannot find the ice plug, call a plumber.</p> <p>Check other faucets and water outlets to see if their pipes are frozen as well.</p> |
| <input type="checkbox"/> | <p>Implement emergency response plans</p>                                           | <p>Responding to a water damage situation should be considered in your emergency response and business continuity plans. Action steps you should take include: safeguarding people affected, minimizing property damage, and notifying clients, suppliers, employees, governmental bodies, PHLY Claims Department, and other pertinent parties. Preserve records and computer data. Take steps if operations need to be temporarily relocated.</p>                                                                                                                                                                                                                                                                                                                                   | <p>Access a sample Emergency Procedures Manual through your MyPHLY account at <a href="http://PHLY.com">PHLY.com</a></p>                                                                                                                                                        |
| <input type="checkbox"/> | <p>Contact a water remediation contractor</p>                                       | <p>A reputable water remediation contractor can respond 24/7/365. They will immediately instruct you over the phone regarding steps you can take to mitigate water damage and will respond onsite promptly to take over the water remediation efforts. Pre-plan and consult with your insurance agent or with PHLY to select a remediation contractor ahead of time.</p>                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Look for affiliations with Disaster Kleenup International, Independent Mitigation &amp; Cleaning/Conservation, Restoration Industry Association, or Institute of Inspection Cleaning and Restoration Certification</p>                                                       |
| <input type="checkbox"/> | <p>Remove high value or water-sensitive equipment and materials</p>                 | <p>Identify high value and water-sensitive equipment and materials ahead of time. Ensure these are kept raised, off the floor, and ideally above grade level. Remove these items from areas adjacent to and below the source of water damage. Use plastic tarps or other water-shielding materials if needed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>Prioritize medical equipment and supplies, computer equipment and data, vital paper records, and high valued electrical equipment</p>                                                                                                                                        |
| <input type="checkbox"/> | <p>Take pictures, video, and document damaged property</p>                          | <p>Once you have taken action on the other measures listed above, take pictures, video and begin documenting damaged property. This will help expedite the claims handling process and will help get your operations back up and running.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>Take pictures and video now, so you have a record of your property before any property damage takes place. Maintain updated records of major equipment purchases.</p>                                                                                                        |

PHLY's POINT strategy can help prevent and mitigate pipe freeze, breakage and water damage incidents. A modest investment of time and resources now can help prevent a major property disaster down the road. Many people put off these simple steps because they believe a property damage incident won't happen to them or will not be significant if one does occur. Each year, hundreds of thousands of homes and businesses find that these assumptions were wrong. Help your organization weather safely through this season by implementing PHLY's POINT strategy today.

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