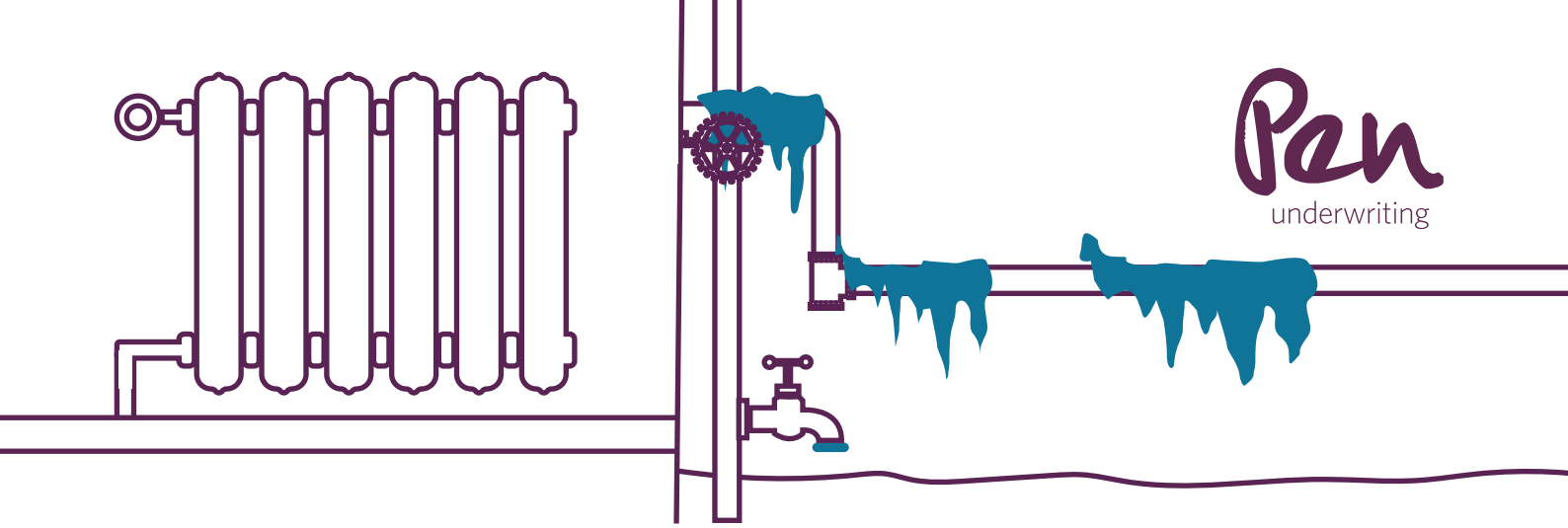

Protecting Your Business This Winter

With Winter rapidly approaching, and on the back of an extraordinary year, it's a good time to check some of the equipment that will help keep your business going if the next few months deliver the usual mix of heavy rainfall, freezing temperatures, icy conditions and snowfall.

WINTER FREEZING

- If you store fuels and bulk liquid on your site, the colder months can bring an increased risk, with tanks and pipes liable to being damaged by freezing temperatures. A common problem for tanks as the temperature drops is burst pipework, so steps should be taken to protect them against corrosion and physical damage.
- With lockdown, followed by summer, heating systems are likely to have been switched off for an extended period this year. The system should be checked before switching it back on to ensure the integrity of the tanks and pipes to avoid the risk of oil spills.

EMERGENCY PREPARATIONS

A winter-freeze prevention plan should be prepared or updated at least a month before the normal arrival time of freezing weather to ensure that staff can be suitably trained/retrained and action can be initiated at short notice to protect buildings.

As winter weather approaches, conditions can change very quickly and the ability to react can unexpectedly become hampered. Disturbances in public transport, roads, power/fuel supplies and other key services can throw normal emergency response plans off track so there is a need to be ready for unusual situations.

Protecting the building

- It is essential that the envelope of a building is not breached by collapsing roofs or adjacent trees, equipment, infrastructure or ice dams, as well as keeping the interior of the building warm enough to prevent freezing. .

Protecting water systems

- One of the most common causes of water damage is the freezing of pipes. As ice forms it expands, often causing pipes to burst. When the pipes thaw, water can escape if the system has not been isolated.
- Outdoor piping is far more exposed to freezing than indoor piping. Be particularly wary of outdoor piping that runs near openings into buildings or over key equipment sensitive to water damage. If burst pipes thaw and release water directly on to equipment it is likely that some damage and disruption will result. Shield or relocate critical equipment or re-route the piping if the water damage exposure is considered excessive.
- Consider the installation of automatic valves designed to shut off water supplies in the event of leaks and bursts.

FREEZE CHECKLIST

To help you prepare and keep your business protected this winter we've put together a checklist on the following pages.

PEN UNDERWRITING WINTER FREEZE CHECKLIST

BEFORE FREEZING CONDITIONS ARRIVE

EMERGENCY PREPERATIONS

- Weather Watch established, employee rota set-up for nominated staff to monitor weather conditions and to make the pre-warning call. ☐
- Severe weather emergency response plan updated. Refresher training done and copies given to emergency response team for their 'grab bag'. ☐
- Emergency use materials checked/replenished: tarpaulins, fuel, antifreeze, salt, grit, sand, sandbags etc. ☐
- Emergency use tools checked/replenished: cold weather clothing and footwear, snow shovels, mops, buckets, squeegies, waste bags etc. ☐
- Plans and tools made ready to isolate and drain down tanks, boilers, water pipes and sprinkler systems (only in an emergency situation) if temperatures drop excessively. ☐
- Owned emergency equipment maintenance checks done: hand-held hot air guns, space heaters, power generators, snow blowers, snow ploughs, gritters etc ☐
- Emergency equipment pre-contracts re-confirmed, contact details re-verified and ready at hand. ☐
- Rental contracts started/set-up for key equipment without pre-contracts. ☐
- Refresher training completed on the use of hand-held air guns/blowers to thaw water pipes plugged with ice. Employees and contractors reminded that they MUST NOT use open flame heat guns or space heaters. ☐

BUILDING

- Checklist and rota set up for regular site inspections and internal/external building inspections by employees and/or contractors during the freeze period. ☐
- Water drainage channels at roof level checked by a competent roofing contractor to clear leaves and other debris. Includes roof gutters, valley drainage channels, hoppers, parapet outlets and downpipes. ☐
- Ground drains, including culverts, checked to be clear of leaves, branches, waste and other debris. ☐
- Risk of ice dam formation in roof level gutters checked: loft spaces re-insulated where internal temperatures found to be high enough to cause them to develop. ☐
- Thermostatically controlled heating installed in freeze exposed areas of a building containing water tanks and water pipes. Includes loft spaces, attics, plant rooms and other isolated areas. Heating confirmed as able to maintain 4°C or more from floor to ceiling. ☐
- Automatic heating controlled by thermostats and frost-stats should be adequately maintained. ☐
- Remotely monitored thermometers fitted in freeze exposed locations. Low temperature alarms verified as functioning to indicate failed heaters or insufficient heating to an area. ☐
- Checked building management system (BMS) alarms are functioning correctly for power supply failures, low-water fuel trips on boilers, low building temperatures, low water temperatures in exposed tanks and water ingress/leak detectors (if installed). ☐
- Checked BMS text / bleeper / e-mail alert messages are being received by emergency responders for overnight periods, weekends and during planned shutdowns from all buildings, including vacant premises. ☐

WATER SYSTEMS

- [ ] Vacant areas or exposed areas with freeze history: drained equipment/pipes carrying water or susceptible to condensation or freezing. Antifreeze added to systems that cannot be drained.
- [ ] Boilers protected against freeze, particularly drain lines, sight glasses and condensate lines.
- [ ] Boilers not in use or not needed during the period of freeze have been drained down
- [ ] Master water supply shut off valve to each building located and physically tested to ensure it can be closed. Sub-divisional valves within the buildings located and tested.
- [ ] Outdoor water filled equipment and tanks prone to wind chill have been shielded/lagged.
- [ ] Indoor plant and pipework located behind open louvres in plant rooms have been shielded.
- [ ] Alternate sprinkler systems normally switched to 'air' for the winter period completed at planned Autumn visit by sprinkler contractor or completed in advance of threatened freeze period, if earlier.
- [ ] As regards alternate wet and dry pipe systems, once the system has been charged with air, a daily check should be made of the pressure gauges to ensure that any gradual escapes of air are made good. Where an automatic air supply is available, this should be checked weekly.
- [ ] If the air supply is taken from any other source other than a dedicated supply, then the system pressure should be checked daily to ensure that the system is not over pressurised.
- [ ] Checked lagging and trace heating for indoor and outdoor exposed wet sprinkler pipework and valves. Electric trace heating systems should be circuit tested to ensure they are in good working order
- [ ] Space heating verified as functioning to maintain 4°C or higher for cold loftspaces, valve chambers and other isolated areas that have wet sprinkler pipework. A frost-stat must be provided, set to switch on the heating when the temperature falls below 10°C within any sprinkler pump house containing diesel pumps.
- [ ] Sprinkler contractor has inspected and freeze proofed all fire pump houses, fire hydrants, fire system water tanks and the associated pipework.
- [ ] Pre-planned fire control impairment permit procedure is in place ready for emergency sprinkler system isolations if required, with Red Tags or Lock-Out Tags ready for use
- [ ] Refresher training on the procedure done for sprinkler contractors and employees.

DURING FREEZING CONDITIONS

EMERGENCY RESPONSE

- [ ] Weather Watch active - daily cold temperatures and forecasts being monitored.
- [ ] Emergency materials / tools / equipment inspected, protected and kept replenished.

BUILDING

- [ ] Site / building inspections active, including vacant areas and unoccupied premises.
- [ ] Access roads/pathways and yards kept clear of deep snow and ice build-up. Contractors engaged as necessary.
- [ ] Roof and ground drains kept open and free of ice in a safe manner. Contractors engaged as necessary.
- [ ] Ice-dam formation monitored in roof level gutters.
- [ ] Temperatures checked and recorded for vulnerable areas during the day, at night and at weekends.
- [ ] Snow monitoring active for roofs – drifts and accumulations being cleared before they reach unsafe levels. Contractors engaged as necessary.
- [ ] BMS checked as operational and key parameters being monitored.

WATER SYSTEMS

- [ ] Trace-heating systems checked to be operating correctly.
- [ ] Boilers / heaters operating satisfactorily.
- [ ] Equipment checked for signs of freeze – localised heating, lagging and shielding in place.
- [ ] Sprinkler systems checked to be ice-free on pipework and valves.
- [ ] Access to fire hydrants, fire pumps, sprinkler valve houses kept clear of snow and ice.
- [ ] Water tanks maintaining water temperature above 4ºC and tank roofs kept clear of snow build-up.
- [ ] Maintain a minimum temperature of 10 degrees celcius within any sprinkler pump house containing diesel pumps and maintain a minimum temperature of 4 degrees celcius within sprinkler valve houses
- [ ] Emergency sprinkler system isolations done using fire control impairment procedure with Red Tags or Lock-Out Tags hung on the isolated system.

AFTER FREEZING CONDITIONS

EMERGENCY RESPONSE

- [ ] Emergency materials / tools / equipment inspected, replenished and stored away safely
- [ ] Learnings from emergency responses and communications taken on-board and plans revised/updated

BUILDING

- [ ] Site/building repairs completed as required.
- [ ] Access roads/pathways and yards cleared of remaining snow, ice and water. Contractors engaged as necessary.
- [ ] Roof and ground drains checked and cleared. Contractors engaged as necessary.
- [ ] Roof level snow drifts and accumulations cleared. Contractors engaged as necessary
- [ ] Temporary alarms or BMS settings re-set.

WATER SYSTEMS

- [ ] Indoor/outdoor equipment and pipework inspected and checked for signs of damage, with repairs completed. Contractors engaged as necessary.
- [ ] Isolated equipment re-instated and tested to ensure correct functioning.
- [ ] Isolated sprinklers checked for damage, reinstated and impairment permits closed.