



## SEVERE WEATHER MITIGATION PREPAREDNESS

### I. Executive Summary:

The purpose of this document is to provide fundamental mitigation strategies to assist insured entities in planning for and executing actions to minimize impacts resulting from severe weather. We are hopeful that this document will enable our insured entities to review and reinforce its severe weather business contingency plans. Thoughtful planning for severe weather events that may put your organization at risk can pay large dividends when these events occur; thereby reducing bodily injury, property damage, business disruption, insurable claims, et cetera. Please consider the below strategies to take *prior* to such severe weather events.

## SEVERE WEATHER MITIGATION CATEGORIES

### I. Central Monitoring/Communications:

- Designation of an incident command center and an alternative center;
- Establish procedures for facility shutdown and early release of associated personnel/individuals;
- Collect and circulate a list of emergency telephone numbers to all individuals associated with the organization;
- Ensure adequate planning and communication with employees through execution of severe weather drills and implementation of necessary telephone “emergency notification tree” systems;
- Establish a designated alternate operating facility, including planning for the possibility of unannounced relocation of essential functions and staff to such facility;
- Ensure adequate planning and communication with local, regional, and state emergency management personnel, as well as local disaster agencies such as the American Red Cross, et cetera;
- Identification of and knowledge of where and how to shut off critical facility utilities, such as, but not limited to electric power, gas, water, hydraulics, compressed air, sewer systems, et cetera;
- Ensure access to a National Weather Service Radio (NOAA Weather Radio);
- Ensure access to AM/FM Radio;

- Establish primary and secondary methods of communication through ensuring access to telephones, cellular phones and/or two-way radios;
- Ensure first aid kits are updated and accessible.

## **II. Electrical Power Interruptions/Outages:**

- Access to and/or installation of backup generators or alternative energy sources, along with identification of critical equipment/loads that will require power in the event of a power outage;
- Establish formal written procedures explaining how to safely connect backup generators to its emergency load;
- If backup generators are available, perform pre-operational checks and start-up tests;
- Develop routine testing procedures to ensure that backup generators can handle the intended critical emergency loads;
- Loss of Refrigeration – “Food Spoilage”. Should access to and/or installation of backup generators or alternative energy sources not be available, consideration should be given to entering into “Memorandum of Understandings” for alternative site(s) for food storage during events of substantial electrical power interruptions or outages;
- Provide for alternative communication capabilities in the event of telephone service interruptions;
- Ensure identification of electrical systems within building(s) through maintaining an electrical system diagram. Such diagram should include electrical systems locations within building(s), main disconnects, components, equipment, and available spares;
- Ensure “surge” protection is in place for sensitive circuits, such as those serving electronic power supplies associated with computers and automation controls. Installing a surge protection device on incoming electrical service to a building provides optimum protection;
- If “surge” protection is not available, ensure procedures are in place to shut down sensitive circuits, such as those serving electronic power supplies associated with computers and automation controls when power outages are expected.

## **III. Heavy Rain/Flooding:**

- Identification and knowledge of whether or not facilities under your supervision are located in a flood plain, history of flooding in such areas, and elevation of facilities in relation to streams, rivers, and dams;
- Identification and knowledge of local community emergency plans, warning signals, evacuation routes, and location of emergency shelters;

- Communication with local emergency management officials regarding special need populations under your organization's supervision and ensure affective emergency evacuation plans are practiced and maintained for use, if needed;
- Ensure routine monitoring of a National Weather Service Radio (NOAA Weather Radio) and establish procedures for facility shutdown and early release of associated personnel/individuals;
- Identification of and knowledge of where and how to shut off critical facility utilities, such as, but not limited to electric power, gas, water, hydraulics, compressed air, sewer systems, et cetera;
- Remove as much property and equipment as possible to higher elevation/ground for storage. Property of high value should be a priority;
- Move all vehicles and/or mobile equipment to higher elevation/ground;
- Construct flood barriers with sandbags or other materials;
- De- energize all electrical system components and ensure that all switches, sockets, circuit breakers, wiring and associated equipment is at least 12" above facilities projected flood elevation;
- Shut down all fuel burning equipment that is subject to flooding;
- Identification and securing of potential facility hazards prior to a flooding event;
- Ensure routine inspection/cleaning out of facilities associated drainage systems such as , but not limited to culverts, gutters, down spouts, and associated piping;
- Access to and/or installation of sump pumps at identified facilities for damage mitigation in the event of a heavy rain or flooding;
- Access to and/or installation of backflow valves or plugs at identified facilities for damage mitigation in the event of a heavy rain or flooding.

#### **IV. Severe/High Wind:**

- Ensure routine monitoring of a National Weather Service Radio (NOAA Weather Radio) and establish procedures for facility shutdown and early release of associated personnel/individuals;
- Conduct facility inspections to identify and secure un-secured outside items that could create or be susceptible to damage;
- Designate, identify, and communicate shelter areas for use during events of severe/high wind;
- Remove and/or trim tree limbs, dead/rotting trees, or dead tree branches near at-risk or high value property;

- Ensure entity owned vehicles/mobile equipment are not parked/stored near at-risk areas such as, but not limited to trees, power lines, un-secured items, et cetera;
- Ensure all windows and outside doors are secured;
- Shutter windows, If shutters are not available, close window blinds, shades or curtains;
- Ensure all dumpsters, outdoor lighting fixtures and fencing are secured/anchored;
- Ensure all awnings are properly secured/fastened;
- Ensure all storage sheds and outbuildings are secured/anchored;
- Conduct post event inspections of facilities roofs for damage and employ short-term remedial actions for prevention of further storm related damages such as water leaks.

#### **V. Severe Cold Temperatures (Freezing)**

- Conduct winterizing inspections throughout facilities. Such inspections should be conducted well in advance of cold weather. The inspections should focus on areas and equipment susceptible to freezing;
- Ensure inspection, service, and testing of heating systems prior to the winter season;
- Ensure routine monitoring of a National Weather Service Radio (NOAA Weather Radio) and establish procedures for facility shutdown and early release of associated personnel/individuals;
- Designate individuals to monitor indoor temperatures of at-risk areas during periods of cold weather;
- Access to and/or installation of backup generators or alternative energy sources, along with identification of critical equipment/loads that will require power in the event of a power outage;
- Remove snow and ice from walking/working surfaces, roads, fire protection equipment, doorways, roofs, and facility venting areas;
- Inspect sprinkler systems every few hours for broken or cracked piping/fittings and/or leaking sprinklers;
- Examine wet-pipe sprinkler systems for areas susceptible to freezing and develop plans to assure they remain operational;
- Examine all dry-pipe sprinkler systems to ensure their clappers are properly seated, air settings are correct, and air maintenance systems (compressors) are in good operating conditions;
- Ensure fire pump heating systems are in proper operating condition;
- Inspect all outside dampers for proper operation;

- Insulate water lines and other at-risk equipment lines/controls;
- Stop drafts by insulating walls, closing windows, doors, and vents;
- Keep drains clear of ice and snow and clear paths to such drains;
- Drain idle pumps and compressors. Such equipment should be tagged and locked-out;
- Drain, blow out, and flush all seasonal equipment with associated tubing and piping;
- Install faucet covers to all external faucets;
- Allow faucets to drip lukewarm water, to minimize the chances of freezing/bursting pipes;
- Seek an evaluation of facilities roofs snow load capacity;
- Monitor snow levels on roofs.

#### **VI. Lightning:**

- Ensure procedures are in place to shut down sensitive circuits, such as those serving electronic power supplies associated with computers and automation controls when power outages are expected;
- Acquire and research the benefits provided within the National Fire Protection Agency (NFPA) – NFPA 780, *Standard for the Installation of Lightning Protection Systems*;
- Install air terminals (lightning arrestors) in an engineered pattern to provide a conductive path from high points of facilities to the ground;
- Acquiring and use of an Electrical Storm Identification Device from the National Weather Service to help act as an alert to or warning of signs of severe lightning events. This could help to timely protect sensitive equipment that could be damaged by lightning;
- Make use of surge suppressors, isolation transformers, and static dissipation devices to prevent negative effects from lightning induced surges and main power fluctuations;
- Ensure that all underground electrical utilities are encased in metal conduit.

#### **VII. Hail:**

- If possible, move vehicles/mobile equipment into covered shelter areas;
- Retract – “retractable” awnings, if present;
- Conduct post event inspections of facilities roofs for damage and employ short-term remedial actions for prevention of further storm related damages such as water leaks.

### **VIII. Earthquake:**

- Ensure all shelving units are fastened securely to walls;
- Ensure that large or heavy objects are not place on top of shelving units;
- Store breakable items in cabinets/shelving units with latches;
- Ensure that all heavy items and/or pictures/mirrors are fastened securely to walls;
- Ensure overhead light fixtures and other top heavy objects are adequately braced/secured;
- Consider installing flexible pipe fittings to avoid natural gas or water leaks. Flexible fittings are more resistant to breakage;
- Ensure natural gas fueled water heaters, furnaces, and other appliances are adequately braced/secured;
- Repair deep cracks in facility ceilings and/or foundations.

**QUESTIONS REGARDING THIS DOCUMENT SHOULD BE  
DIRECTED TO BRIM'S LOSS CONTROL DEPARTMENT**

**AT**

**(304)-766-2646**

**OR**

**TOLL FREE AT (800)-345-4669**