

Information Bulletin: Emergency – natural disaster protocol for electrical and gas equipment safety (e.g. – fire, flood, earthquake, landslide)

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Procedures for re-commissioning gas & electrical equipment after a natural disaster has occurred.

If electrical or gas appliances or systems are subject to conditions resulting from a natural disaster (**e.g. Fire, Flood, Earthquake, Landslide**) they may become damaged, making them inoperable or unsafe.

For your safety, it is important to have your area of occupancy declared safe to enter by the proper authorities. It is important that the requirements of other health and safety protocols have also been met.

This document outlines preparations prior to a disaster and Technical Safety BC requirements for restoring service after a natural disaster has occurred.

Important information

1. Pre disaster precautions for buildings:

Gas and electrical equipment safety

There can be potentially serious gas and electrical safety implications to consider if you are living or working in an area experiencing extreme flooding or wild fires.

Technical Safety BC reminds homeowners and businesses to take precautions with gas and electrical appliances when there are warnings of flooding or wild fires that may impact their home or business.

Gas and electrical appliances or systems damaged by flooding or fire can be dangerous if they are re-energized and used without being properly inspected by a licensed contractor.

If your community is being impacted directly by flooding or wild fire and time allows, the following is recommended:

- If you have advance warning and flood waters or wild fire could reach your gas appliances you may have a Technical Safety BC licensed gas contractor remove your gas appliances or their components that may become damaged.
- Have your propane supplier remove your propane tank or ensure it is adequately anchored to prevent the tank from floating and being carried away by flood waters.
- Clear the area underneath and within 10 feet of a propane tank of vegetation or any other combustible material to limit the damage from wild fires.
- Any gas appliance that is removed must have the open end of the pipe leading from the valve to the appliance capped or sealed.
- If required to evacuate your home in a hurry and natural gas is **utility supplied by Fortis BC or Pacific Northern Gas**: Do not shut off your natural gas if you receive an evacuation order. If fire or emergency officials request Fortis BC or PNG to do so, they will turn off the natural gas service as a precautionary measure, or if there is an immediate threat to a Fortis BC or PNG infrastructure.
- If required to evacuate your home in a hurry and **gas is provided by propane or by others**, shut off the main gas supply upstream of the gas meter or at the propane tank or cylinder.

- Disconnect or unplug all non-essential electrical appliances and electronic equipment.
- Ensure that all valves and power knobs on all appliances and systems are turned off.
- Ensure propane cylinders and portable appliances are in a secure area above the anticipated flood level and clear of combustible material.

If your community is in an active seismic zone and there is a risk of earthquakes the following is recommended:

- Have a Technical Safety BC licensed contractor connect appliances such as ranges, refrigerators, clothes dryers by corrugated metal connectors which are less susceptible to damage in an earthquake. Vented appliances can be connected by the same type of connectors provided they are secured to ensure that the vent cannot be dislodged and the connector does not exceed 2 feet.
- Gas water heaters should be secured so that they remain in place and upright during an earthquake. Use commercially manufactured supports which have been approved by the California State Architect.

Note: depending on the time of year and type of event it may be advisable to leave heating appliances in operation to protect against freezing conditions.

2. Post disaster protocol for evacuated buildings:

Permission to enter the affected area must be granted by the authority designated in command.

Utility distribution services and propane service will be restored by local Utilities or propane suppliers using their own procedures.

Gas only

- If gas suppliers have shut off fuel supplies, removed gas meters or propane containers, contact your provider regarding the required process to have your building re-energized. In some cases, a tag may be provided on site outlining these requirements.
- A shut down list, including addresses of all buildings where flood waters entered the building will be delivered by the gas supplier to the authorities having jurisdiction for follow up.

If you reside within one of the following areas please contact these local municipalities for gas permitting and protocol procedures. Maple Ridge, Burnaby, Vancouver, North Vancouver, District of North Vancouver, Richmond and Kelowna.

2(a) Buildings outside of the designated affected zone

Well away from flooding, fire, slide, earthquake, etc., however premises have been impacted by the loss of the electrical or gas utility as a result of the incident.

- When notified by the gas supplier, the building owner may turn main gas valve back on when appropriate and re-light appliances or contact a Technical Safety BC licensed gas contractor to do this work.

Electrical only

- The utility may reconnect service without any other intervention from Technical Safety BC or licensed contractor if the utility system was only disconnected for precautionary measures.
- This will not apply to conditions where customer owned infrastructure has been impacted in addition to utility disconnection.

2(b) Buildings within the designated disaster zone

Where the event may have affected the gas and/or electrical services to the building.

Electrical and Gas

- Building owner must contact a Technical Safety BC licensed contractor to assess any safety hazards. Permits are required for repairs or modifications but the contractor will not be required to obtain permits in advance of the restoration, and they may begin emergency repairs before obtaining a permit. Homeowner permits will not be issued for emergency repair work.

Please visit Technical Safety BC's website for a list of active licensed contractors at:

<https://www.technicalafetybc.ca/find-contractor>

- Technical Safety BC staff will be prepared to offer technical advice to homeowners, building owners, contractors, emergency response personnel and gas/electrical suppliers. Technical Safety BC staff will also be prepared to visit sites where appropriate.

Gas only

- Appliances, accessories, components, equipment, piping, and tubing that have been exposed to fire, explosion, flood, or other damage shall not be offered for sale, installed, reactivated, or reconnected to the gas supply until the appliance, accessory, component, equipment, piping, or tubing has been inspected by a Technical Safety BC licensed gas contractor. The inspection of piping or tubing exposed to flood shall include a check for water in the piping or tubing system.
- In the event new equipment, piping or venting must be installed the appropriate gas permit will be required.

Electrical only

For residences, hospitals, essential services as deemed by the local municipality and livestock barns:

1. There are no special conditions or requirements for non-disaster affected areas.
2. If electrical equipment or wiring has not been subjected to wetting, and if the contractor assessment finds no other problems, then reconnection can be authorized without a permit.
3. In areas classified as flooded by the local authority:

Qualified field safety representative's (FSR) may make a declaration to BC Hydro stating registration number and this bulletin number **IB-EL/GA 2015-04** in replacement of the required permit number (**1-866-693-7007** for major power restoration events only) to restore power if:

They are satisfied that all hazards have been safely controlled or eliminated (use section 3 of this document as a guideline)

The request is logged by the FSR in a notebook used exclusively for this purpose and must include the following information:

- i. Date and time
- ii. Location of premise
- iii. Name of owner
- iv. Any work performed
- v. Name and number of FSR
- vi. Name and number of Contractor (if appropriate)

The notebook may be required to be submitted to a safety officer for audit.

The authorization and declaration form can be found on Technical Safety BC's website at:

<https://www.technicalafetybc.ca/declaration-form-206> Copies of the form are also available at any Technical Safety BC office.

A handwritten declaration may be used if the normal form is unavailable, provided that in addition to the required log book information, it contains the following (or similar) statement:

I, ___ (insert name) ___ declare that I have personally inspected this site, and that the site is safe for reconnection of electrical service.

- Service repair work performed above requires a contractor declaration to be submitted to Technical Safety BC within 10 working days of the declared end of the emergency.
- This contractor declaration and permitting procedures may differ within each local authority so please contact the following applicable municipalities for this information:

Victoria, Maple Ridge, Surrey, Burnaby, Vancouver, North Vancouver, District of North Vancouver and West Vancouver.

For other premises such as businesses, manufacturing plants and warehouses:

- Follow normal procedures or contact Technical Safety BC for direction.

3. Guidance for equipment and system assessment:

Electrical and Gas - Heating systems & equipment

- Whether you use a gas or electrical heating system, ensure that you have it thoroughly inspected by a certified individual employed by a Technical Safety BC licensed contractor before using it again.

- If they have been wetted or otherwise damaged, replace the furnace blower motor, switches and controls.
- Damaged or wetted forced-air heating ducts and return-duct pans should be either cleaned or replaced.
- The inspection of piping or tubing exposed to flood must include a check for water in the piping or tubing system
- Replace components like filters and insulation inside appliances such as furnaces, water heaters, boilers, refrigerators and freezers if they have been wet, burnt or otherwise damaged, or replace the appliance completely.

Electrical systems & equipment

If equipment or wiring has been wetted, burnt or otherwise damaged:

- In the case of severe flooding or damage, after repairs are made, all circuits must be tested, unless complete rewiring has been performed.
- Plug-in loads (such as TVs, dryers) must be unplugged and may only be reconnected if replaced or reconditioned by a qualified repair service. Note: it is the field safety representative's responsibility to ensure that these devices are unplugged prior to re-energization. It is the homeowner's responsibility to ensure that the devices are repaired or replaced.
- Permanently connected loads (such as heaters, ranges) must be removed and replaced or reconditioned by a qualified repair service or contractor.
- Other electrical equipment (such as receptacles, fixtures) must be replaced
- Electrical connections must be taken apart, cleaned and dried, and remade.
- For customer service panels, if the rest of the panel has been cleaned, dried, connections redone, and has been verified through testing, only the individual breakers need to be replaced. Note that wetted molded-case circuit breakers cannot be reused and must be discarded.
- If service metering has been wetted, contact the utility and indicate this on declaration the form.
- Any other hazards identified must be isolated or repaired.

For additional information not covered by this bulletin please contact Technical Safety BC at 1.866.566.7233.

Issued by: Provincial Safety Manager

References:

Bill 19 – 2003 *Safety Standards Act*

B.C. Reg. 100/2004 Electrical Safety Regulation

B.C. Reg. 103/2004 Gas Safety Regulation

B.C. Reg. 105/2004 Safety Standards General Regulation