



Hazard Resilience Strategies

Hazardous Material Spills, Explosions and Leaks

Gas Explosions and Gas Leaks
Mine Explosions
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Gas Explosions and Gas Leaks ¹

- Ensure community-based gas explosion and gas leak exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure fire departments have trained fire fighters to respond to gas explosions and gas leaks and have sufficient personal protective equipment (PPE) for all fire fighters.
- Ensure gas companies and community officials perform regular safety checks of gas storage structures and distribution systems
- Ensure gas companies have replaced all gray cast iron pipes.
- Ensure there is a warning system in place to notify community residents and businesses of gas explosions and gas leaks and how to prepare for them.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of gas explosions and gas leaks

Mine Explosions ²

- Ensure abandoned mines have been permanently sealed off.
- Ensure community-based mine explosion exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)



- Ensure fire departments have trained fire fighters to respond to mine explosions and have sufficient personal protective equipment (PPE) for all fire fighters.
- Ensure mining officials strictly follow all Occupational Health and Safety regulations.
- Ensure there is a warning system in place to notify community residents and businesses of a mine explosion.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of a mine explosion

Oil Pipeline Leaks^{3 4}

- Ensure closed-circuit security cameras are in place monitor pipelines.
- Ensure community-based oil pipeline leak exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure gas companies have replaced all gray cast iron pipes.
- Ensure the fire department has access to oil absorbents, absorbent pads, mats, pipe flange wraps and other products to minimize the spread and contamination of the soil and waterways.
- Ensure the pipeline company monitors and replaces unsafe pipeline sections on a regular basis.
- Ensure there is a warning system in place to notify community residents and businesses of an oil pipeline leak and how to prepare for it.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of an oil pipeline leak.

Other Explosions⁵

- Ensure community-based explosion exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure former live-fire military training facilities have been searched for unexploded munitions that can explode if triggered.
- Ensure police regularly check for illegal drug manufacturing or fireworks production in private homes or offices.
- Ensure there is a warning system in place to notify community residents and businesses of an explosion.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of an explosion

Hazardous Material Spills – on site/in Situ^{6 7}

- Ensure community officials perform regular safety checks of hazardous material storage structures including chemicals stored under pressure.
- Ensure community-based hazardous material spill on site/in situ exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)

- Ensure fire departments have trained fire fighters to respond to hazardous material spills and have sufficient personal protective equipment (PPE) for all fire fighters.
- Ensure fire fighters and residents have ready access to decontamination sites.
- Ensure the company has access to products to minimize the spread and contamination of the soil and waterways.
- Ensure the company has trained Hazardous Material Teams on site.
- Ensure there is a warning system in place to notify community residents and businesses of a hazardous material spill on site/in situ.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of a hazardous material spill on site/in situ.

Hazardous Material Spills – Air Transport ^{8 9}

- Ensure aircraft with dangerous cargoes do not fly over the community.
- Ensure community-based hazardous material spill air transport have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure there is a warning system in place to notify community residents and businesses of a hazardous material spill via air transport.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of a hazardous material spill via air transport.

Hazardous Material Spills – Land Transport ^{10 1112}

- Ensure centre line guardrails, safer intersections and wider road shoulders are in place in problematic areas.
- Ensure roundabouts are in place to calm the flow of traffic.
- Ensure community-based hazardous material spill involving land transport exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure fire departments have trained fire fighters to respond to hazardous material spills and have sufficient personal protective equipment (PPE) for all fire fighters.
- Ensure fire fighters and residents have ready access to decontamination sites.
- Ensure police conduct regular safety checks on vehicles carrying hazardous materials.
- Ensure police regularly target impaired drivers.
- Ensure speed cameras or warning signs are located in places subject to speeding on transportation routes used by trucks carrying hazardous materials.
- Ensure the community has reduced speed limits and/or lower speed zones in areas where hazardous materials are being transported.
- Ensure the community limits travel of trucks carrying hazardous material in core and residential neighbours.
- Ensure the fire department has access to products to minimize the spread and contamination of the waterways and beaches.
- Ensure the fire department has trained Hazardous Material Teams available for deployment

- Ensure there is a warning system in place to notify community residents and businesses of a hazardous material spill involving land transport.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of a hazardous material spill involving land transport.

Hazardous Material Spills – Marine Transport ^{13 14 15}

- Ensure community-based hazardous material spills involving marine transport exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure fire departments have trained fire fighters to respond to hazardous material spills and have sufficient personal protective equipment (PPE) for all fire fighters.
- Ensure, if applicable, harbour masters are familiar with the harbour and are available to board and navigate ships.
- Ensure marinas have warning system in place to notify boat operators of potential heavy fog or storms.
- Ensure officials perform regular safety checks of storage structures (e.g., gas and oil barges) in marinas and harbours.
- Ensure the fire department has ready access to products to minimize the spread and contamination of the waterways and beaches.
- Ensure the fire department has trained Hazardous Material Teams available for deployment
- Ensure there is a warning system in place to notify community residents and businesses of a hazardous material spill involving marine transport.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of a hazardous material spill involving marine transport.

Hazardous Material Spills – Rail Transport ^{16 17 18}

- Ensure community-based hazardous material spill involving rail transport exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure contrasting materials are in place to clearly mark rail crossings.
- Ensure development regulations in areas susceptible to rail derailments limit land use, or prohibit development
- Ensure fire departments have trained fire fighters to respond to hazardous material spills and have sufficient personal protective equipment (PPE) for all fire fighters.
- Ensure rail companies limit carrying hazardous materials through, or close by, residential areas in the community.
- Ensure rail company officials perform regular safety checks of rail cars carrying hazardous materials.
- Ensure railway warning systems are visible prior to reaching the crossing.
- Ensure the community is working with *Operation Lifesaver*, a national public education program for railway safety, which works with communities to reduce rail collisions.
- Ensure the fire department has access to products to minimize the spread and contamination of the soil and waterways

- Ensure the fire department has trained Hazardous Material Teams available for deployment
- Ensure the fire department is aware of the quantity and type of hazardous materials travelling by rail in close proximity to the community.
- Ensure there is a warning system in place to notify community residents and businesses of a hazardous material spill involving rail transport.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of a hazardous material spill involving rail transport.

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