Hazard Resilience Strategies

Nuclear Failure

Nuclear Accidents

Nuclear Accidents

- Ensure the community has explored alternatives to nuclear power to reduce risk (e.g., solar or wind).
- Ensure the community has a nuclear response plan in place that identifies a close-range exposure zone, a larger emergency response zone and an ingestion exposure pathway zone and the corresponding evacuation routes to ensure the prompt and effective evacuation of residents to safe shelters.
- Ensure community-based nuclear failure exercises have taken place in schools and the community-at-large (e.g., table-top or full-scale exercises).
- Ensure existing nuclear facilities have emergency response and containment plans for hazardous nuclear materials which align with provincial and / or federal Nuclear Emergency Response Plans, and are tested and revised regularly.
- Ensure nuclear hazard maps exist or are developed according to the Canadian Nuclear Safety Commission and with the power plant leadership to identify the 3 zones within the nuclear response plan; ensure maps are shared with the community.
- Ensure all residents and businesses are prepared for nuclear accidents through training and exercises.
- Ensure plans are in place to effectively communicate with residents (e.g., using social media) and to safely evacuate resident from the three zones, as appropriate, to designated shelters.
- Ensure regulations are in place that prohibit development and limit land use within areas of nuclear accident risk (e.g., the close-range exposure zone).
- Ensure regulations require specific building codes for developments within areas of nuclear accident risk, such as sealing building ventilation systems for residences in proximity to nuclear plants; ensure a plan to update/upgrade structures that pre-date these regulations or their enforcement exists or is being developed.

- Ensure the community has contact with nuclear preparedness agencies such as the Canadian Nuclear Safety Commission to receive nuclear emergency preparedness training and information in the event of a nuclear accident.
- Ensure nuclear materials and wastes (e.g., medical isotopes, nuclear fuel waste) are managed by owners according to Federal regulations.
- Ensure the community has pre-designated shelters outside of the community in the event of nuclear crisis.
- Ensure the community has plans that include banning food and water distribution, sheltering livestock, protecting animal feed and providing uncontaminated feed, especially to milk producing cows, goats, and sheep within the ingestion exposure pathway zone to limit contamination following a nuclear accident.
- Ensure there is a warning system in place to notify community residents (using multiple media channels, including social media) of a nuclear accident and the warning includes instructions.
- Ensure there is a warning system in place to notify transient, migrant and homeless people of a potential nuclear accident.
- Ensure diverse and redundant cooling systems are in place.
- Ensure that in a worst-case scenario following failure of all cooling systems and back-up cooling systems, a manual cooling protocol has been developed and tested to minimize risks to workers.
- Ensure existing homeless shelters have made provisions for increased capacity, hazard specific conditions and evacuation procedures to other emergency shelters located outside of nuclear fallout danger zones.
- Ensure plans are in place for remediation of water and soil contamination following nuclear failure.
- Ensure regular monitoring of water and soil is conducted to preserve human health impacts from the nuclear plant.
- Ensure the community has a means through which to consult Traditional Knowledge holders and subject matter experts about the reduction of risks of nuclear accidents on the environment.

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