

OVERVIEW

The following Safety Practice defines the safety requirements where any person at the workplace may be exposed to approaching storms and their associated lightning activity.

Lightning is a form of electrical discharge between clouds or a cloud and the ground. Lightning is caused by the attraction between positive and negative charges in the atmosphere, resulting in the build-up and discharge of electrical energy.

Dangers include:

- Being directly hit by a lightning strike;
- Receiving an electric shock or burns from a nearby lightning strike;
- Power lines fallen onto vehicles or personnel on the ground;
- Vehicles struck by lightning and tyre explosion;
- Being hit by fallen structures that may become damaged after a lightning strike;
- Fires resulting from lightning strikes on equipment or surrounds (e.g. grass fires).

In the event of lightning and storm activity, the general 30/30 rule shall be considered for when to retreat to a place of safety. The Bureau of Meteorology can be accessed for additional information and weather updates through, [The Bureau of Meteorology - Rain radar and weather maps](#). Lightning apps are available that give up to the second updates on lightning activity.

The 30/30 rule states that when you see lightning, count the time until you hear the associated thunder. If this time delay is 30 seconds or less, go immediately to a safe location (Storm is within 10km).

The protection of personnel during a lightning storm shall be conducted in accordance with AS/NZS 1768:2021 Lightning Protection.

RESPONSIBILITIES

Management	Provide resources to manage lightning and storm risks in accordance with legislative and company requirements.
Site Manager / Supervisor	Monitor weather conditions, suspend work when required, ensure personnel relocate to a safe location, and authorise the safe recommencement of work.
Workers	Follow site instructions, relocate to a safe location when directed or when the 30/30 rule applies, and report storm or lightning activity immediately.
First Aiders	Provide emergency first aid and coordinate emergency response in the event of a lightning-related injury.

1. IDENTIFICATION OF LIGHTNING

Guidance:

As a general rule – suspended works can generally be re-commenced, after the interval between Lightning and thunder is more than 30 seconds apart for at least half an hour. (30/30 rule)

All persons at the workplace shall:

- Notify the Site Manager if storm/lightning activity is detected;
- Follow any instructions given by the site manager for the withdrawal to a safe location and
- Relocate immediately to the nearest building if the 30/30 rule is identified (storm within 10km of the respective worksite).

2. WORK LOCATIONS

Guidance:

Outdoors

If working outdoors during a thunder and lightning storm persons should avoid:

- Contact with water, metal objects such as wires, power tools, aluminium ladders, metallic pipes and metal sheds e.g. sea containers;
- Standing near a lightning protection down-conductor or earthing system;
- Communication towers and tall metallic masts;
- Small, unprotected (unearthed) buildings;

Standing underneath trees or structures that may become dislodged if damaged, or in groups and maintain a distance of approximately five metres from other people; and Hill tops and open spaces.

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Page 1 of 2

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LIGHTNING - SAFETY PRACTICE

Note: If shelter is not available, crouch down in the lowest possible position and roll up in a ball with feet on the ground – DO NOT lie down. The Idea is to be as low as possible, but with minimal contact with the ground

Indoors

If working indoors during a thunder and lightning storm persons should:

- Avoid contact with water;
- Stay away from open doors and windows;
- If possible, stay in an interior room within the building;
- Don't lean against metallic doors or window frames;
- Do not use corded telephones, remove any headsets;
- Do not use corded hand held radios – use portable hand held units; and
- Turn off and stay away from appliances, computers, televisions and power tools.

Vehicles/Mobile Plant

If operating a vehicle/mobile plant during a thunder and lightning storm persons should:

- Crane should cease lifting as soon as possible, retract and lower boom and make safe. Operator to vacate cab and go indoors
- Drive at an appropriate speed to the nearest sheltered area away from open areas;
- Avoid using an in car two-way radio (portable handhelds and mobile phones excluded); and
- Keep windows and doors closed.

3. INTERRUPTION TO WORK

Guidance:

Suspension of work

The Site Manager shall ensure:

- Work activities shall be suspended when storm/lightning activity is detected using the 30/30 rule;
- Incoming power supply to the worksite is isolated; and
- All personnel working on or in close proximity of structures are removed from the area to a place of safety.

Before re-commencement of operations, the Site Manager shall ensure:

- A risk assessment is conducted to determine the appropriate time of re-commencement of operations.
- Structures shall be inspected by a competent person and a prestart inspection is conducted.

4. FIRST AID FOR LIGHTNING VICTIMS

Guidance:

Note: Post lightning strike/shock victims do not carry an electrical charge and can be safely handled.

The Site Manager shall be notified immediately of the occurrence and must:

- Call 000 (if not already called) to notify of an electric shock;
- Provide next of kin details to the emergency medical personnel in attendance;
- Notify the HSE Officer immediately;
- Ensure the onsite Senior First Aider attends to the victim commencing DRSABCD / CPR / First Aid and defibrillation, if necessary, prior to transport;
- Make the incident / event area safe by barricading the scene;
- Ensure the isolation of other potentially hazardous energy sources to prevent any further occurrences; and
- Arrange for the injured person to be immediately transported via ambulance or helicopter to the nearest medical facility capable of provided assessment / treatment for electric shock.
- Complete an Incident Report (Form 912/Hammertech).

REFERENCES

- Work Health and Safety Act 2020
- Work Health and Safety (General) Regulations 2022
- AS/NZS 1768:2021 Lightning Protection
- [The Bureau of Meteorology - Rain radar and weather maps](#)

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Page 2 of 2