

SOP 1.09 – Lightning Procedures

Section 1 – Volunteer Patrol Operations

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Electronically Controlled Document

Purpose

To outline recommended procedures in the event of an electrical storm.

Scope

All Life Saving Operations and all activities related to Life Saving Victoria.

Introduction

With the growing proportion of people engaging in outdoor activities, lightning, as a natural hazard poses a threat to the population of Australia with five to ten lives lost each year and well over one hundred injuries.

Injuries can occur when people use landlines or base station radios during thunderstorms, as the system may suddenly become part of a highly charged electrical circuit. Related injuries include hearing damage, burns and electrocution.

The dangers of participating in outdoor activities cannot be dismissed and make up the remainder of incidents involved with lightning strikes.

Definitions

The "30/30" rule is recommended for lightning safety and serves as a guide for the suspension and subsequent resumption of activity. The first part of this rule (a flash-to-bang count of 30 seconds) is a guide to the *suspension* of activity. The flash-to-bang count is one of the most practical techniques for estimating the distance to lightning activity. It is based on the fact that light travels faster than sound. Given that sound travels at a speed of about one kilometre every three seconds, the time that elapses between the flash of lightning and clap of thunder can be divided by three to give a measure of how far away the storm is in kilometres.

The overall message is to seek shelter when the lightning activity is too close, but how do we define what is meant by too close? Currently, most experts agree that the accepted "safe" distance is no less than 10 km. This means that as the flash- to-bang count approaches 30 seconds, all people at risk should be seeking or already inside safe shelters.

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The second part of the 30/30 rule provides the criteria for *resumption* of activity. Here it is recommended that people wait 30 minutes after the last sight of lightning or sound of thunder. This figure is based on the observation that a typical storm moves at about 40 km/h. Thus, waiting 30 minutes allows the thunderstorm to be about 20 km away, minimising the probability of a nearby strike. It is important to emphasise that blue skies and lack of rainfall are not adequate reasons to breach the 30-minute return-to-activity rule

Procedures

Protection against lightning strikes

- With an approaching thunderstorm, taking into consideration the 30/30 rule (above), all persons should be advised to leave the water and clear the beach immediately.
- The Patrol Captain should remove the patrol flags and close the beach.
- The patrol should retire to the shelter of the clubrooms or a "hard top" vehicle or building and maintain a surveillance lookout from there.
- Small structures, patrol shelters, fabric tents and isolated small groups of trees should be avoided.
- If in the open and unable to find shelter, crouch down (individually), preferably in a hollow, feet together and remove metal objects from head and body. Do not lie down but try to avoid being the highest object in the vicinity.
- If swimming, surfing, or on a vessel, leave the water immediately and seek shelter.
- In the event of a competition carnival or special event, arrangements will be made by the organisers to delay the event until the danger has passed and to move all people to a safe location.

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The 30/30 Rule

- The 30/30 Rule (refer Definition above) is recommended for lightning safety in the Australian Standard on Lightning Protection. The rule is designed to provide guidance on the suspension and resumption of activities in an outdoor environment. It sets out the following principals:

Close Beach

- Where the flash (Lightning) to bang (Thunder) count is 30 seconds or less, indicating that the lightning is 10km away. (time divided by three refer definition below) This is associated with significant risk that the strike could be at the patrol arena.

Open Beach

- Where 30 minutes has passed since the last sighting of Lightning, a typical storm travels at about 40 km/h. Waiting 30 minutes allows the thunderstorm to be approximately 20km away.

Protection against lightning strikes – indoors

Avoid the use of landlines, base station radios, fax machines, computers and other electrical equipment. If emergency calls are required, keep them brief.

First aid

The normal emergency care procedures apply to patients affected by lightning strikes. Ensure that the rescuer is in no danger of being struck by lightning. If the patient is not breathing

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