Rules and Regulations

REGULATION H: 3.14
Lightning and Stormy Conditions Policy

Summary

This Policy provide information about:

- **Regulation H – 3.14 Lightning and Stormy Conditions Policy**

that the Joint Zone Associations Competitions will operate under.

The Regulations, Procedures and Policies in conjunction with the Constitution and By-Laws of the Zone Association shall, with the approval of NNSW Football and duly Registered with FA, apply from the date of approval and shall take precedence over any previous Regulations of the Zone Association.

Issued by the Joint Board of Directors of Macquarie Football, Newcastle Football, and Hunter Valley Football.

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POLICY ON LIGHTNING AND STORMY CONDITIONS

RATIONALE

Lightning presents a real risk of death or serious injury to outdoor sports participants.

The greatest threat to personal safety when a thunderstorm is local, is if a person is outdoors.

Lightning strikes that occur close to or in the immediate proximity to children and adults can be fatal; in Australia, lightning accounts annually for five to ten deaths and well over one hundred injuries.

A large percentage of lightning strike victims will survive, but many of these will suffer from severe lifelong injury and disability.

Statistics show that approximately 25% of persons killed by lightning were playing sport when hit.

Open sports fields offer very little protection from a direct or indirect lightning strike.

When thunderstorms threaten, Team Officials or Member Club administrators must not let the desire to start, continue or complete a match or training session impair their judgment when the safety of all participants (players, Team Officials, Match officials, volunteers, spectators) may be in jeopardy.

BACKGROUND

Climate change is an ongoing debate and concern, climatologists believe lightning frequency is changing, as the climate is changing.

The reality of our future is that the risk of thunderstorms and lightning strikes is likely to increase in coming years.

As part of the Joint Zones Associations and their Member Clubs duty of care the need to put in place changing protect measures and guidelines for participants, volunteers and spectators will surely increase.

Thunderstorms are most likely to develop on warm to hot days not just in our summer months but can occur at other times throughout the year if the conditions are right for their development.

They will go through various stages of growth, development, and dissipation.

During the thunderstorm, each flash of ‘cloud to ground’ lightning is potentially lethal.

Lightning may travel 80 km before it strikes something in its path; if a person is in the path of that lightning discharge, it could prove fatal as the current associated with the visible lightning flash travels along the ground.

Although some victims are directly struck by the main lightning strike, many victims are hit as the current moves in and along the ground.

The ground emits charges that arc up to meet the leading strikes and the high voltage gradients cause currents to flow in concentrated channels on the surface or within the soil.

It is therefore evident that the potential exists for a large number of people to be struck by lightning as they leave themselves vulnerable due to inadequate protective action.

Contrary to popular belief, lightning does not always strike tall objects – it can strike anywhere and can strike repeatedly.

Metal objects do not attract lightning, but they may channel it if the strike is only a few metres away.

LIGHTNING FACTS

* All thunderstorms produce lightning and are dangerous.
* Lightning often strikes outside the area of heavy rain and may strike at a distance as large as fifteen kilometres from any rainfall associated with the thunderstorm.
* Any time thunder is heard, the thunderstorm is sufficiently close to pose an immediate lightning threat to your location.
* When thunderstorms are in the area but not overhead, the lightning threat can still exist even when overhead it is sunny, not raining or a clear sky is visible.
* Many lightning casualties occur before the thunderstorm rains have moved into the area: this is often due to people not seeking shelter soon enough.
* Large numbers of casualties occur after the rain has dissipated; this can be due to people being in too much of a rush to go back outside and resume activities.

POLICY AND RECOMMENDATIONS

1. Forecasting Lightning

a. The variant nature of lightning, the inability to accurately forecast electrical storms and the likelihood of very localized weather patterns mean that it is not possible or practical to create a policy that can be applied to all venues on any particular day for Joint Zones Associations football events or activities.

b. In the absence of an over-arching policy, one or more designated Club Official should be responsible for monitoring the forecast weather conditions in the area at which the ground is located.

This person is to provide awareness at individual Club level and put into effect action plans for general safety when this becomes necessary.

c. Monitoring should begin the day before a scheduled match or training to confirm whether or not thunderstorm warnings have been given by the weather forecasters.

If warnings have been given, increased awareness of possible lightning strikes should continue on the day of the match or training.

The designated Club Official(s) must remain vigilant for approaching thunderstorms and/or changing, rapidly deteriorating conditions.

The observation of approaching thunderstorm clouds, the first observed flash of lightning or clap of thunder should heighten lightning awareness; monitoring local weather radar can also be useful in this awareness.

2. Lightning Information

a. A simple method of determining the distance to the storm cell is to measure the time elapsed from when the lightning flash is observed and when the associated clap of thunder is heard.

Light travels much faster than sound. Assuming that the light from the lightning flash reaches the observer virtually instantaneously, and with the knowledge that sound takes

approximately three (3) seconds to travel one (1) kilometre, the distance between the observer and the lightning flash can be determined by using the rule

Distance (in km) = time from observing the flash to hearing thunder (in 3 second units)

For example,

if the time delay is 12 seconds

that is, 4 lots of 3 seconds, the distance is 4 km.

b. It is important to note that lightning may be obscured by clouds, so it must be assumed that when thunder is heard, lightning is in the vicinity.

In such a situation, careful judgment must be applied to determine the level of risk.

c. The threat of lightning continues for a much longer period than most people realise.

Sunshine or clear blue sky must not be interpreted as 'safe from lightning' if the thunderstorm is still in the vicinity.

It is also possible that the thunderstorm may return after changing its direction of travel.

Local weather radar may assist in tracking the path followed by the thunderstorm.

d. There is no place absolutely safe from lightning strikes; however, some places are safer than others, whilst other places are quite unsafe, all within the unpredictability of lightning strikes.

3. The 30/30 Rule for Lightning Safety

a. Generally speaking; if you can see lightning and/or hear thunder you are already at risk.

b. In the absence of information specific to the location, a lightning location system, or a specialized warning device, the '30/30' Safety Guideline (Lightning Protection Standard) should be used.

c. The first part of the '30/30' rule is a guide to the postponement or suspension of football activities.

Most experts agree that the accepted "safe" distance from lightning is greater than 10 km.

This means that, as the time interval between observing the flash and hearing the sound of thunder associated with the flash decreases and approaches 30 seconds, outside activity must be suspended, and participants should be inside safe shelters.

A storm cell with lightning activity within 10 km constitutes a safety threat.

d. The second part of the '30/30' rule provides the criterion for the resumption of activity which is also applicable to decisions made by the Bureau of Meteorology (BOM).

Based on the observation that a typical thunderstorm moves at approximately 40 km/h , the thunderstorm will need approximately 30 minutes to move from directly overhead to a distance of 20 Km away – most experts agree that this is the minimal safe distance as a storm cell with lightning activity moving away within 20 Km still constitutes a safety threat.

This means that the recommendation is to wait a minimum of 30 minutes after the last sighting of a lightning flash or sound of a thunderclap, before resuming activity in an open area, so minimizing the risk of a nearby lightning strike.

4. Safe Locations - Shelter

a. There is no place or location that is absolutely safe from the lightning threat; however, some places or locations are safer than others.

b. The safest place or location is inside a large building with electric and telephone wiring and plumbing to provide a safe pathway for the current to the ground.

Once inside such a shelter the persons taking shelter need to stay away from fixed telephones, electrical appliances, lighting fixtures, radios or microphones, electric sockets, plumbing and any other metallic fixtures.

Mobile or cordless phones are safe options only when the user and the antenna are located fully within the safe structure.

Lightning should not be observed from open windows or doorways; observing from inner rooms is a safer option.

Another relatively safe place is within an enclosed motor vehicle with all windows closed, provided no contact is made with metallic surfaces or the steering wheel.

c. For persons caught outside in an open space, it may be relatively safer to be among trees of uniform height.

A person caught outside should seek low ground, crouch down with feet together to minimize both height and ground contact and cover ears.

5. Unsafe Locations – No Significant Shelter

a. Minor structures such as portable shades, bus shelters etc provide little protection.

b. Near tall or isolated (single) trees – persons should not shelter under trees to keep dry during a thunderstorm as this is a high-risk location for lightning strikes.

c. High ground or open playing fields where the person is the tallest object – the risk of lightning strike is exacerbated if the person is in contact with an umbrella.

d. On or in water (saltwater or freshwater) – a person swimming, surfing etc should leave the water immediately.

6. Recommendations for Safety during Lightning Events

a. Every football event (match, training session etc) should have a designated person in charge; this person is responsible for ensuring that the lightning policy procedures is disseminated to all participants and that the policy is adhered to in the case of a lightning event.

b. Consider placing lightning safety tips and/or emergency procedures in newsletters, flyers, handbooks and placing lightning safety warning signs around the venue.

c. Identify the location of safe shelters at the venue and the best way to access them.

d. The lightning policy should be presented to all participants – coaches, training staff, administrators, players, parents, supporters – in order to increase the levels of awareness of the lightning policy to all participants.

This includes a better appreciation of the potential dangers of lightning and essential safety measures.

e. A procedure for announcing the suspension and resumption of all football activities should be in place.

f. Consider reading lightning safety messages over the PA system (if available) if thunderstorms are forecast or are imminent.

The information should contain:

Criteria for the suspension and resumption of all football activities

g. ***If thunderstorms occur***, use the '30/30' rule to determine the distance of the thunderstorm from the sporting venue in use and to determine suspension and resumption of any football activity.

h. Suspend **all** outdoor football activity when the distance of the thunderstorm from the sporting venue drops below 10 km (i.e., when the time between the lightning flash and the clap of thunder associated with that flash drops below 30 seconds).

i. On suspension of outdoor football activity, re-locate all present, where practicable, to a safe shelter (***refer to Point 4 above for Safe Locations – Shelter***).

j. ***Only resume*** outdoor football activity only when the 30 minutes has elapsed from the time of the last observed lightning flash or the last observed thunderclap (this means the thunderstorm will be approximately 20 Km away if it continues on its original path).

k. ***It must be emphasized again*** that clear blue skies and lack of rainfall are not adequate reasons to breach the 30-minute minimum time to resume outdoor activity rule.

7. First Aid Guidelines for a Person Struck by Lightning

a. Key First Aid guidelines must be followed for a person struck by lightning.

The victim(s) does not carry an electrical charge and are safe to handle.

b. Urgent medical attention may be needed to save such a person's life; call 000 - emergency services immediately if this is at all possible (e.g., use a mobile phone to call if the landline phone cannot be used).

c. As all deaths from lightning strikes arise from cardiac arrest and/or cessation of breathing, it is essential that the person struck by lightning is given the required first aid treatment as soon as possible.

d. Check the victim's pulse and breathing.

e. Begin CPR if the person is not conscious, does not have a pulse, and does not appear to be breathing normally, CPR or mouth-to-mouth resuscitation is the respective recommended first aid treatment.

* For an adult or child over 1year of age, start CPR for adult/children.
* For an child under 1 year of age, start infant CPR.

First aid treatment must be continued until medical care is available to take over the treatment, or:

- use an automated external defibrillator (AED), if one is on hand,

f. If possible, move the victim to a safer place.

Be aware that the thunderstorm may still be dangerous.

Don't let the rescuers become victims.

g. If the victim a pulse, breathing independently, that is has become conscious place them in the recovery position: Recovery Position until medical support has arrived.

h. Ensure that the victim remains under constant supervision and observation until emergency services has arrived.

Resources:

The following is also provided for information and reference:

- Bureau of Meteorology – BOM website for weather forecasts and information
- Severe Thunderstorms: General Information
- **Download** the BOM Weather app onto your mobile phone for access to hourly and 7-day forecasts, radar, and warnings – wherever you are.

  It's free and ad free on mobile and tablet devices, with widgets so you can see the weather at a glance.

APPENDIX A:

HOW TO OBTAIN A FORECAST ABOUT THUNDERSTORMS

To obtain the current or predicted forecast of thunderstorms for the upcoming 72 hours:

1. Visit http://www.bom.gov.au/places/ and in the "Change location" box enter your suburb, town, or postcode.
2. Click on: DETAILED 3-HOURLY FORECAST option located on the right side of the page.
3. Select the specific day/date of the event.
4. Identify the column with the nearest time to the planned football event.
5. Note the ***Thunderstorms*** can be found under the heading of "Significant Weather" towards the bottom half of the page for that date.

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