

# LIGHTNING SAFETY POLICY

## PURPOSE

The purpose of this document is to provide procedures to minimise the risk of injury during times of high lightning activity.

## ACKNOWLEDGEMENT

Parts of this procedure have been sourced from:  
[http://www.lightningman.com.au/safety\\_procedures.html](http://www.lightningman.com.au/safety_procedures.html)

## PRE-RACE PROCEDURE

The Technical Delegate (TD) is responsible for liaising with the Race Director (RD) on all aspects of risk management. If pre-race weather forecasts indicate the possibility of lightning on race day, then the TD should meet with the RD to review (or develop) the RD's lightning contingency plan. This plan should consider personal safety as a priority, and should have the agreement of the TD. All event staff team leaders should be made aware of the thunderstorm/lightning contingency plan, and protocols set in place prior to race day.

As a minimum, the plan should include protocols for the following scenarios:

- Competitor information and education
- Postponement of the event
- Cancellation of the event prior to commencement
- Abandonment of the event after it has commenced

## RACE DAY PROCEDURE

If the race day weather forecast still includes the possibility of lightning strikes, the RD's lightning contingency plan should be implemented. All competitors and event staff shall be notified of the lightning contingency plan and what their responsibilities are within the plan. Most importantly, all stakeholders need to be aware of the communication protocol if the event is abandoned after the commencement of the event.

### Withdrawal of Sanctioning

Notwithstanding any agreement prior to race day, if the TD considers that there remains an unacceptable risk of competitor injury on race day, either prior to or during the event, the TD has the option to withdraw sanctioning for the event, on behalf of Triathlon Australia. (The TD is encouraged to seek counsel from other senior technical officials prior to making this decision). If sanctioning is withdrawn prior to the event, then competitors must be informed of this decision by the RD. The requirement to advise competitors if sanctioning is withdrawn forms part of the sanctioning agreement for the event.

## **POST-RACE PROCEDURE**

If the lightning contingency plan has been implemented then the TD and RD shall participate in a post-race debrief of the plan's implementation. Any learnings arising from the debrief shall be included in the TD's Post Event Report.

## **BACKGROUND INFORMATION ON LIGHTNING BEHAVIOUR**

### **Anticipating a Thunderstorm**

Keep a constant lookout for thunderstorm clouds in the region. They can develop in as little as 15 minutes. If thunder is heard and intra-cloud /cloud to ground lightning can be seen, you are already in a higher risk situation.

Once thunder can be heard, keep estimating the distance to the lightning activity by using the Flash to Bang reckoning method. This is a mental calculation that anyone can do simply by counting the delay between seeing a lightning flash, to hearing the audible thunder associated with the flash.

The rule of thumb is that every 3 seconds of delay between a flash to thunder, equates to a distance of 1 kilometer, so where 30 second flash-to-thunder time interval, the lightning activity is about 10 km away.

Data from lightning location systems shows that you should seek a safe location whenever the flash-to-thunder time (Flash to Bang) interval is less than 30 seconds or 10 km distance to the lightning activity.

### **The 30/30 Rule**

The "30-30 Rule" states that when you see lightning, count the time until you hear the associated thunder, and if this time delay is 30 seconds or less, go immediately to a safe location as described above.

If you cannot see the lightning, just hearing the thunder means you are most likely to already be within striking range, and it is time to seek whatever appropriate shelter is available.

After the storm conditions have apparently dissipated or moved on, wait a further 30 minutes, after hearing the last thunder before leaving the safe area location. Should thunder be heard within this period, recount from the last thunder heard.

The "30-30 Rule" is best suited for existing thunderstorms moving into the area. However, it cannot predict or protect against a first lightning strike. Thunderstorms can develop overhead where there will be no prior notice that a storm is incoming. Be alert to changes in sky conditions portending thunderstorm development directly overhead.

Larger outdoor activities, with longer evacuation times, may require a longer lead-time than implied by the "30-30 Rule."

When lightning threatens, go immediately to a safer location. Do not hesitate. The lightning casualty statistics are full of stories where persons who were just about to make it to safety, when they were struck. Even a few extra minutes lead time can be life saving.

### **Lightning Safety for Outdoor Sport**

Lightning safety awareness should be a priority at every outdoor event, where education is the single most important means to achieving this goal.

The number one rule is that competitors and volunteers need to always consider their own situational safety, and those who may find themselves exposed to the risk should always recognise and anticipate their exposure to a changing or high-risk situation, and where appropriate move to a lower-risk location.

#### **The following steps are suggested:**

1. Regularly monitor weather conditions and local weather forecasts prior to scheduled events.
2. Suspension and resumption of activities should be planned in advance, in conjunction with a Lightning Risk Policy.
3. Understanding of SAFE shelters is essential. SAFE evacuation sites include:
  - Fully enclosed metal vehicles with windows up
  - Substantial buildings
  - Low ground.
4. UNSAFE SHELTER AREAS include all outdoor metal objects, like power poles, fences and gates, high mast light poles, and electrical equipment.
  - AVOID solitary trees.
  - AVOID water.
  - AVOID open fields.
  - AVOID high ground.
5. If you feel your hair standing on end, and/or hear "crackling noises," you are in lightning's electric field. If caught outside during close lightning activity, immediately remove metal objects (including baseball cap, jewellery, belts, car keys etc), place your feet together, duck your head, and crouch down low with hands on knees.
6. Wait a minimum of 30 minutes from the last observed lightning or thunder before resuming activities. Be extra cautious during this phase as the storm may not be over.
7. People who have been struck by lightning do not carry an electrical charge and are safe to handle. Apply first aid immediately if you are qualified to do so. Get emergency help promptly.
8. Lightning's remote distance is easy to calculate: If you hear thunder, the associated lightning is within audible range
9. Suspend activities, allowing sufficient time to get to shelter. Of course, different distances to safety will determine different times to suspend activities.
10. Be aware of your surroundings and the nearest safe area.