



SAFETY ALERT: Safety Hazards Working in Floods

2025SA2

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1. Introduction

This Safety Alert has been developed in line with NSW SES safety information and guidelines and is aimed at highlighting and raising awareness of the hazards and safety considerations required for RFS Members providing support in cyclone and flood affected areas.

Working around flooded waters is an extremely high-risk activity and all members must work within their skill set and be aware of the hazards list below.

Members should, at all times:

- Wear all required PPE/C properly to avoid potential risk of harm.
- Undertake a Dynamic Risk Assessment of the situation.
- Refer to “IMSAFER” to ensure they are fit for task and maintain their own safety at all times.
- Report all Safety incidents as soon as practicable (within 24 hours). Serious incidents to be reported immediately to the OCC.
- Be briefed on this safety alert.

2. Hazards identified in current conditions

2.1. Driving in Flood Waters

During the operational response in a flood event, the RFS maintains the SES policy stance that advises against the public driving in flood waters. This policy stance should be maintained during the execution of flood rescues and any use of RFS vehicles in the flood rescue environment must be carefully risk assessed.

Driving through flowing water across a roadway or through a river crossing poses specific risks to the driver, crew and the vehicle, for example:

- Water as low as 300mm deep can sweep a vehicle off the road
- No certainty about the true depth of the water
- Road surfaces can become slippery, such as at a river crossing, where friction is further reduced as water, sand or mud replaced the frictional forces that hold the vehicle to the road
- Severe weather events may increase the likelihood of the road structural integrity being compromised

- Flood waters can scour the road surface or wash away whole sections of the roadway, which may not be visible
- Water may cause damage to the vehicle

Actions required:

- Before attempting to enter or cross through water with a RFS tanker or vehicle, the driver and crew should stop and evaluate the depth or potential depth of the water to determine if the tanker/vehicle would be susceptible to engine stall or being impacted by moving water. Where water depth is known to exceed the middle of the front wheel hubs, then an alternative means of access is required.
- Members are not to be located within the refuge bay area whilst the vehicle is moving through flood/storm waters.
- Maintain a consistently low speed (do not exceed 15km/h) in water without stopping, unless safe to do so.
- Be alert for potentially submerged objects and damaged road surfaces in the water.
- Remember that the brake operation may be impacted when driving in flood/storm waters. Test after traversing water.
- If a tanker/vehicle becomes inoperable in flood/storm waters, radio for immediate assistance.
- Tankers that have been operating in flood/storm water are required to have a mandatory service schedule applied.

2.2. Powerlines in Floodwaters

Working in the vicinity of energised electric lines can expose members to health and safety risk of an electric shock or other serious injuries including death which can be caused directly or indirectly by electricity.

Members should maintain situational awareness with regards to power lines that may be downed, underwater or exposed.

Energy and utility providers strongly advise not to assume electrical lines are de-energised in flooded areas.

Actions required:

- **Maintain the 8m distance rule from any powerlines**
- Always assume any electrical wires are energised until deemed safe by a competent Electrical Provider worker.
- Ensure an exclusion zone and alert the utility provider.

2.3. Working Safely around Drainage Pipes

As operations continue around flood affected areas and transition into clean up phase, there may be some drainage pipes or inlets that do not have enough barrier protection around or over, such as fencing or grates, previous water depth gauges and warning signage the risk in areas may no longer be there following these flooding events.

You may be presented with the following hazards:

- Following storms there is a risk of becoming trapped against (or in) an inlet pipe by suction forces caused by gravity e.g. stormwater or flow from a tank.
- An inlet can flood to a depth which is sufficient to cause drowning.

- The size of a pipe could be sufficient to trap and hold a body part.

Actions required

- Conduct a site risk assessment prior to conducting any activities and maintain a dynamic risk assessment focusing on hazards surrounding drainage pipes.

2.4. Strong Wind Hazards After Significant Rain Event

Heavy rain and flooding that causes soil and surrounds to be near or at maximum saturation levels, results in erosion and water logging that has the potential to cause a lack of stability in trees, powerlines and other structures. This, coupled with strong winds and ongoing rainfall, increases the risk of a tree, limbs or branches to fall. Considerations for other hazard types above and below the ground such as power, gas or water supply maybe impacted, along with the additional risks to members requiring working at heights for storm damage repairs.

Actions required:

- Consider hazards associated to rain and strong winds when working at heights.
- Review [Hazardous Trees OPG](#).
- Consider the work area and where vehicles may need to be parked whilst responding operationally.
- Avoid working under flood and weather affected trees and other flooded or waterlogged structures.

2.5. Cyclone Winds and Storm Surge

Tropical cyclones bring persistent heavy winds that many haven't previously experienced. In a category 2 cyclone, sustained winds range between 89-117 km/h, while a category 1 cyclone has sustained winds between 63-88 km/h and can persist for hours or even days, depending on the cyclone's movement speed and how quickly it weakens over land.

Cyclone activity produces strong onshore winds and flooding rains, increasing the threat of storm surge. A storm/tidal surge is a large, quick moving body of water that piles up against the shore. It can damage and destroy properties and outbuildings, wash away access roads and run ships aground. These surges will not roll back like a wave does and will continue to surge due to wind impact.

Windborne debris also causes significant risk and may result in serious injury or death and damage plant, equipment and vehicles.

Actions required:

- Sustained winds and gusts present significant hazards to members working outdoors, particularly those working at heights. Seek shelter in strong winds, do not work outside. Conduct a risk assessment to ensure safe operations and implement appropriate controls.
- Where there is a threat to life, members responding must conduct a dynamic risk assessment and only proceed if safe to do so.
- Crews must operate in teams of two or more, no one works alone.
- Crews should identify alternate routes prior to departure avoiding areas that may be compromised.
- Members required to work near coastal areas likely to be impacted by storm or tidal surges must wear a PFD.
- Members must wear mandatory helmet with chin strap secured and safety glasses.
- Back up batteries should be carried for headlamps and torches.

2.6. Mosquitoes and Vector Borne Diseases

In NSW, some types of mosquitoes can transmit the following types of vector-borne diseases such as Ross River, Barmah, Murray Valley encephalitis, and Japanese Encephalitis. During operational activity surrounding flood events where low lying and stagnate water exists, there is a higher risk of the mosquitoes breeding. All members performing activities outside can be at risk.

Actions Required:

- Wear appropriate PPE/C to suit conditions.
- Minimising the amount of exposed skin reduces the risk of mosquito and other animal bites by wearing loose, light-coloured clothing with long sleeves and pants. Also, wear socks and shoes where possible.
- Wear mosquito repellent on all exposed skin areas and reapply according to instructions or if you notice mosquitoes biting. Reapply repellent after getting out of activities involving water or in hot conditions where you may be sweating. Always apply sunscreen first and then apply repellent.
- Take care during dawn and dusk when mosquitoes are most prevalent outside.
- Take extra precautions when travelling in areas with a higher risk of mosquito-borne diseases.
- Consider vaccinating for the Japanese encephalitis virus. In NSW, a free Japanese encephalitis virus vaccination is available for people aged 2 months or older who live or routinely work in a Local Government Area of high JEV concern

Refer to NSW Health for further information on [vector-borne diseases](#), [mosquito fact sheet](#), and [advice on mosquito control during floods and public events](#).

2.7. Wildlife in the Water

Wildlife can respond to flooding by moving out of the way or riding waters to higher ground when they are able. These animals are likely to be fatigued and stressed and should be left alone to recover if they are uninjured.

Some confirmed wildlife and cattle issues include:

- Snakes in flood waters and/or in structures of homes (at head height)
- Large lizards on domestic roofs
- Spiders and other reptiles swarming to avoid flood waters
- Large animals, such as kangaroos can become enraged

Actions required:

1. **Do not approach wildlife and keep a safe distance.**
2. Contact the appropriate agency to remove an injured or stressed animal, such as WIRES **1300 094 737**, RSPCA **1300 278 3589** (1300 Cruelty) or local reptile catcher.
3. Download the free “ifaw” Wildlife Rescue App which connects users with the nearest wildlife rescue group in NSW for assistance.

2.8. Potential Asbestos Hazard During Cleaning Homes and Structures

Asbestos Containing Materials (ACMs) include:

- asbestos-containing insulation on pipes, boilers, tanks, ducts;
- asbestos millboard inside electrical switchboxes/fuse boards or air-conditioning re-heat boxes;
- asbestos cement sheeting and corrugated sheeting products, i.e. cement or concrete like products (eg 'fibro' and 'super six roofing');
- loose fill asbestos; and
- vinyl tiles and vinyl flooring mastic and associated adhesives.

Prior to wash down work being undertaken, the RFS Officer-in-Charge should ascertain with the owner of the premises or relevant person, if there is the potential for asbestos or ACMs to be present.

When washing down flood affected areas / structures, be aware that they may already be saturated and may be more susceptible to damage / deterioration when using higher than required hose pressure and spray patterns.

As a guide, when cleaning inside buildings of mud and other materials:

- Washing down walls, a 25mm hose or 19mm hose should be used with the pump pressure at the lowest setting and the nozzle to be set between a power cone and fog pattern rather than a jet pattern. A soft bristle broom is to be used for cleaning. Include pressure at nozzle.
- Cleaning floors, a 25mm or 38mm hose on the lowest practicable setting for pressure, a stiff bristle broom can be used (soft bristle broom would usually not be able to move mud).

When cleaning outside of buildings:

- Only apply sufficient minimum pressure for the task: e.g. when cleaning layers of mud, the flow from your hose must be at a pressure that does not damage a surface that may contain asbestos or ACMs or another safe cleaning alternative to be applied. The use of fire hoses is permitted for wash down activities provided that operating pressures are kept to a minimum and water spray patterns from the nozzle do not cause damage to the external structure.

DANGER: If any evidence of friable asbestos breaking away is seen, stop all activity immediately and follow OPG Asbestos Incidents.

RFS members are to be mindful of the potential asbestos hazard and be vigilant. If damage to a surface occurs, stop all wash down work.

2.9. Decontamination Care

Members should treat all contact with floodwaters as being contaminated, such things like sewage, chemicals, animal waste, dead animals may be in the water creating bacteria and potentially causing skin irritations and smells. Members who are exposed to prolonged contact with water may experience infections with their feet such as macerated skin (softening and whitening). Trench foot is a condition that results from your feet being wet for too long. Symptoms can include tingling, pain and swelling.

Decontamination Care

- Where possible, wash down vehicles onsite and shake out floor mats to remove contaminated runoff
- Washing of boots/shoes to remove excess dirt/mud
- Remove clothing and place and seal in a plastic bag (have a change of clothes in vehicle)
- Rinsing and washing wetsuits

Wetsuit decontamination process

- Take wetsuit off in warm shower and leave inside out
- Rinse in cold or warm water, you can use a shampoo or mild detergent to wash the neoprene •
- Hang to drip dry
- If your wetsuit still smells, use a touch of disinfectant, and wash again

Personal Hygiene

- Use sanitiser regularly
- Wash hands regularly, especially before eating or drinking
- Cover wounds and avoid getting flood water on wounds
- Wear appropriate PPE/PPC
- Stay hydrated to maintain overall health

Foot Care

- Where possible, air-dry and elevate your feet as often as possible
- Where possible, change wet shoes and socks for dry ones once a day
- Thoroughly clean and dry feet after showering
- Air your feet when resting and sleeping (don't wear socks)
- The use of medicated powder can assist with maintaining healthy feet

2.10. Managing Fatigue and Welfare during Operations

Undertaking work during operational events can often be challenging. Fatigue is mental and/or physical exhaustion which reduces a person's ability to perform work safely and effectively. This can prevent members from functioning within normal boundaries and create risks to your safety and the safety of others.

Fatigue is caused by prolonged periods of physical and/or mental exertion without enough time to rest and recover, which can accumulate over time. Fatigue affects a member's health and increases the chance of injuries occurring and poor decision making.

Actions required:

- Look after yourself by using IMSAFER and be mindful of the signs of fatigue.
- During operational shifts, members are encouraged to take adequate rest breaks to refresh and rest.
- At the end of your scheduled operational shift, stand down and take the rest that you need prior to your next shift.
- Debrief at the end of shift
- Keep hydrated, eat nutritional food, and ensure you are adequately rested.
- Have breaks when you feel tired

RFS members and staff have 24/7 access to support services:

- Peer Support/CISS: 1800 049 933
- Member Assistance Program: 1300 360 364

3. Reporting Safety Incidents

Members are to report all safety incidents via the forms below:

- [Report of Workplace Injury/Illness/Exposure form](#) (within 24 hours)
- [Report of Health & Safety Near Miss or Property Damage form](#)

For further information regarding the Safety Alert, please contact the Safety team at **safety@rfs.nsw.gov.au**

