E. HIGH RISK PRODUCTION ACTIVITIES

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1. FIREARMS / ARMOURER

GOLDEN RULES

- LIVE AMMUNITION SHOULD NEVER BE ON A FILM SET.
- All DUMMY ammunition needs to be distinguishable from live ammunition and capable of being demonstrated to be so.
- Assume that firearms are always loaded.
- The Armourer is to provide safe, operational firearms and blanks suitable for those firearms and for the action to be performed. Testing and discussion around suitability should be done in pre-production.
- Blanks can kill – they are explosive-type devices. The Armourer is responsible for testing the blanks and knowing the safe working parameters of those blanks.
- Blank ammunition, dummy ammunition and firearms should be stored securely when not under the direct supervision of the armourer.
- Firearms can ONLY be supplied and supervised by a trained, experienced, and licensed Armourer. The Armourer should have only ONE role on set. Their sole duties should involve the control, supervision and management of firearms, ammunition and prohibited weapons.
- Assume all firearms – imitation and real - require appropriate licenses and permits to be used on set. (Assume all other weapon types, including law enforcement equipment, are subject to legislative controls, e.g., handcuffs, batons, crossbows, martial arts props.)
- Performers only handle firearms with the instruction and approval of the licensed Armourer. The Armourer must train and assess the competence of the performer handling the firearm to a level suitable for the action.
- No one should wave a firearm around or point it at another or at themselves outside of their directed action. Be 'muzzle' aware at all times. Take all reasonable steps to minimise situations where a firearm is pointed directly at people.
- Firearms capable of emitting any form of projectile or forward blast should not be discharged directly at anyone.
- The Armourer is to prepare a risk assessment and safe working procedure. This documentation ties in with the production's Risk Management Safety Plan produced by the Safety Supervisor.
- Ensure PPE has been provided for risks such as hearing damage and burns.
- Ensure that police and local residents have been informed if you are planning to use imitation or real firearms.
- A production is to consider alternatives to discharging firearms, including the use of imitation firearms and applying digital effects to firearms deployment in post-production.

PCBU

Producer, Theatrical Armourer, First Assistant Director (First AD), Safety Supervisor, Key Grip and Stunt Co-ordinator

RELEVANT LEGISLATION

Australian states and territories control the regulation of the sale, purchase, possession, and storage of firearms and ammunition, including imitation firearms. The following legislation applies:

- Australian Capital Territory: *Firearms Act* 1996*, Firearms Regulation 2008*: https://www.legislation.act.gov.au/a/1996-74/
- New South Wales: *Firearms Act* 1996*, Firearms Regulation 2006*: https://www.legislation.nsw.gov.au/view/html/inforce/current/act-1996-046
    - See also: *Weapons Prohibition Act 1998* and *Weapons Prohibition Regulations 2017*

- Northern Territory: *Firearms Act* 1997*, Firearms Act Regulations 1997*: https://legislation.nt.gov.au/en/Legislation/FIREARMS-ACT-1997
- Queensland: *Weapons Act* 1990*, Weapons Regulations 1996*: https://www.legislation.qld.gov.au/view/pdf/inforce/2014-05-21/sl-1996-0440
- South Australia: *Firearms Act* 1977*, Firearms Regulations 2008*: https://www.legislation.sa.gov.au/LZ/C/R/Firearms%20Regulations%202008.aspx
- Tasmania: *Firearms Act* 1996*, Firearms Regulations 2006*: https://www.legislation.tas.gov.au/view/html/inforce/current/act-1996-023
- Victoria: *Firearms Act* 1996*, Firearms Regulations 2008*: https://www.legislation.vic.gov.au/in-force/acts/firearms-act-1996/096
- Western Australia *Firearms Act* 1973*, Firearms Regulations 1974*: https://www.legislation.wa.gov.au/legislation/statutes.nsf/main_mrtitle_1453_homepage.html

SPECIAL NOTE: Productions in New South Wales and Queensland must take professional advice about the ability to use operable firearms. NSW and Queensland laws prohibit the use of firearms that have not been modified to prevent the chambering or discharge of a live round.

At the date of writing (2021), New South Wales, Victoria and Queensland provide for specific regulation of Theatrical Armourers (NSW / VIC) and Ordnance Suppliers (QLD). Theatrical Armourers and Ordnance Suppliers must be licensed to possess the firearms under their management and possession. To obtain this licence, completion of a suitable course in weapons handling is required.

(It is expected that all other states and territories will provide specific regulation for Theatrical Armourers following the revised (2017) National Firearms Agreement commitment that all jurisdictions must have regulations addressing film and Theatrical Armourers.)

A production must in any instance satisfy itself that the Armourer it engages is competent to do the work required and has a history of successfully working in the screen industry.

Wherever armoury is to be used, your starting point must always be that possession of firearms is illegal without a licence or permit pertaining to their use on a theatrical production. You may not use a firearm in a production without the presence of a competent, licensed Theatrical Armourer / Ordnance Supplier. A standard shooter's licence is NOT sufficient for the supply of firearms on set or a qualification for undertaking the duties of a Theatrical Armourer / Ordnance Supplier.

IMITATION, REPLICA AND ANTIQUE FIREARMS[4]

Imitation firearms are devices that can reasonably be mistaken for working firearms based on their overall appearance, but do not have the functionality of a working firearm. Imitation firearms are regulated in some Australian states.

Replica firearms are not the same as imitation firearms. Replicas are working copies of an original firearm and anyone in possession of a replica must register it and be the holder of the appropriate firearms licence.

Antique firearms are generally considered to have been manufactured pre-1900. Subject to differing rules across Australia, some types require permits for possession and use, while others do not. They generally have the same storage requirements as modern firearms.

You must *not* assume that an imitation or antique firearm can be used on a production without a licence or permit or be handled by anyone other than an authorised user, such as a licensed Theatrical Armourer.

[4] This information sits better adjacent to the section on legislation.

The best approach is to assume that anything having the appearance of a firearm that is not obviously a toy has to be checked for legal use in your State or Territory.

RESPONSIBILITY FOR SAFETY ON-SET

The Producer bears overall responsibility for safety on-set and in rehearsals. Producer also bears responsibility for ensuring that key personnel are suitably qualified and experienced.

The on-set Armourer has responsibility for the safety of cast and crew when firearms are used on a set or location. The Armourer establishes safe operating procedures for the use of firearms on-set and in rehearsals and training.

Only the Armourer or a person under their direct supervision should have access to the firearms on set. When not on set, firearms should be locked away securely by the armourer.

Armourers do not work in isolation. They work with the Director, Producer, First Assistant Director (First AD), Safety Supervisor and Stunt Coordinator to plan and implement safe practice, but they are the subject expert when it comes to firearms.

PROCEDURE – PRE-PRODUCTION

In pre-production it is common for executives and personnel from a variety of departments to seek advice from the Armourer.

The Producer, Director, First AD and Production Manager typically seek advice on legislative constraints around, for example, scripted firearms action involving minors or interstate filming. The Director, Designer and Costume Designer typically require the Armourer to advise on historical context and character-appropriate firearms and firearms accessory choices. This includes advice on availability of firearms, particularly where modification or manufacture is required to satisfy a non-standard design. The Director and Stunt Coordinator require advice on the use of firearms that inform their decision making on firearm choices, including stunt alternatives. A firearm requiring both hands to hold and operate, for example, may be an impediment to certain actions and safety. The Producer, Safety Officer, Production Manager, Director and First AD require armoury-related Work, Health and Safety documentation and safety supervision during production and training.

In pre-production, you must discuss with your Armourer and other relevant crew members, such as, First AD, Safety Supervisor, Key Grip, Stunt Coordinator, Art Director and SFX Coordinator, the use of weapons, protective equipment, precautions, and how a scene is to be conducted and then draw up protocols. Go through these protocols in your production meeting for the heads of departments.

The planning stage is essential. It involves the Producer developing and implementing a Production Safety Management Plan. This overarching plan requires the Producer to ensure that a Safety Report is written by an appropriately qualified / graded Safety Consultant for the production.

The safety report must highlight scenes that require firearms and other weapons, and refer the scene activity to the armourer, including the location and environmental features. The Armourer then needs to produce a Safe Work Method Statement and a Work Health and Safety Risk Assessment for those activities. The relevant safety information and directions should be attached to the call sheet the day *before* the scene.

Notification must be given to local Police and other relevant authorities (e.g., council) that you plan to fire a firearm and/or film a scene involving firearms that are visible or audible to the public. It does not matter whether you plan to use imitation or functioning firearms, notice must be provided.

Where an audible ‘shot’ (or shots) and/or firearms (or weapons of any type) are visible to the public in rehearsing or filming a scene, you are to ensure:

- It is made obvious to the public that filming is taking place, e.g., signage and hi-vis vests.
- local residents are forewarned of the filming; and
- enough stewards are available to reassure and provide for the safety of the public.

PROCEDURE – ON SET WHERE FIREARMS IN USE

1. Each day, the First AD, Armourer and the Safety Officer should discuss the proposed schedule of use of the firearms. The First AD and Safety Officer should be satisfied that the guns brought to set are safe and unloaded and that no live ammunition is on set. Where large numbers of firearms are to be used, the armourer may need to bring other suitably licenced and trained armoury staff. No other members of crew are to handle the firearms.

2. Where maintenance of firearm(s) is identified by the Armourer as a safety requirement, the Armourer should try to perform that maintenance between takes or make request to the First AD for an allocation of time for those tasks.

3. The First AD must, if it hasn't been possible in rehearsal, arrange for all cast who are scheduled to be handling the firearms on the day to be inducted in the safe handling of the firearm(s) that they will be using.

4. Where deemed appropriate, a test blank is fired off-screen prior to deploying a blank-loaded firearm on set or location. This allows the armourer, performer(s), First AD and immediate crew to gauge the effect of the blank and make situational adjustments. It also familiarises the performer, who may have limited exposure to firearms, with the recoil and sound of the blank firing.

5. Firearms shall ONLY be armed on the direct request of the First AD and ONLY when the armourer considers it safe to do so.

6. Before handing a firearm to a performer, the armourer must inform them of the condition of the firearm. For example, stating "clear" or "armed" or "loaded" or "dummy" rounds and, where practical, how many rounds of each type have been loaded in which firearm. The armourer's advice must be loud enough for cast and crew in the near vicinity to hear.

7. A performer or relevant crew member has the right to be shown the clear state of the firearm.

8. The performer should confirm to the armourer that they heard and understand the state of the firearm they are to hold. The Armourer shall remain close to any actor issued a firearm to take possession of the firearm immediately 'cut' is called or for ANY OTHER REASON the armourer deems necessary to ensure safety of cast and crew.

9. If the firearm misfires, the Armourer should immediately move in and retrieve the firearm when "cut" is called or where they judge a loaded firearm would form an unacceptable risk, announcing in a loud voice that the firearm is still loaded.

10. No crew or other 'off camera' personnel should be in the vicinity of a gun being fired unless there is a special requirement for proximity and all appropriate safety measures have been implemented. No one should move in directly after firing except the Armourer.

11. If a firearm is to be fired in proximity of cast or crew, the Armourer, First AD, Safety Officer and those members of cast and crew shall agree upon safe angles and distances under the expert guidance of the Armourer. These deliberations will have regard to the firearm and ammunition type, the action to be performed, the anticipated blast dispersion and case ejection, the pre-production test demonstration data and the type of protection available to participants. The Key Grip, Stunt Co-ordinator and camera crew may need to be consulted depending on the situation and action required.

12. Where practical, in scenes using a firearm to depict a character being threatened or fired at, consider using reverse singles, parallax distortion, telephoto compression, editing (including inserting post-production effects) to further reduce risk.

13. If a firearm is to be fired directly at a camera, the camera should be locked-off and the crew removed from the firearm's line of fire and vicinity of discharge. A shatterproof, clear plastic shield or other appropriate protection for crew should be considered if the firearm is to be directed within an arc that includes the position of the camera.

14. When a firearm is returned to the armourer following a take, clear verbal confirmation is required that the weapon has been returned to the armourer and that the firearm is now "clear" (on completion of the clearing procedure).
15. Where practical, if the firearm(s) are not required for the next take, the armourer should remove them from the set and securely store them where only the armourer has access.

USE OF BLANK AMMUNITION

A BLANK is a firearm cartridge that has propellent but no hard projectile. Blanks are used to generate a muzzle flash and sound. Blanks may also generate the force needed to operate the mechanism of the firearm. When fired in a firearm the blank produces a highly focused stream of supersonic gas which normally travels down the barrel and exits from the muzzle. This gas stream is very hot and can contain unburnt powder, pieces of wadding or small pieces of the metal cartridge used to contain the powder charge.

Blanks can cause injury or even fatality when either (or both) improper or ineffective blank construction occurs and a person in the vicinity of the discharged blank is too close to the point of detonation.

It is essential that production personnel treat blanks as they would 'live' ammunition containing a projectile. Some of the risk minimisation measures include:

- Where crimped blanks are used, cases must NOT be re-used.
- Where *non*-crimped blanks are used, the wadding used must be of a soft, light material which can reasonably be expected to disintegrate in the blast and not act as a projectile.

Blanks are to be demonstrated as safe for use in filming. This will involve blank cartridges being test-fired prior to filming. Test firing can assist production personnel (cast and crew) to understand what to expect and set safe parameters for rehearsal and filming. This testing is best done in pre-production where a suitable target, for example, paper, styrene foam sheet or cardboard can be set up to indicate the blast intensity, dispersion, and penetration at informative ranges. Video documentation of the tests can assist efficient communication of results to relevant parties.

Blanks must be stored under secure lock when not under the direct supervision of the Armourer.

MEDICAL SUPPORT

Where production activities with the potential of posing a serious threat of harm to human life are being carried out (rehearsal and filming of scenes), the availability of medical and ambulance services must be known and where applicable, stand-by arrangements secured.

2. WEAPONS OTHER THAN FIREARMS

GOLDEN RULES

- Engage a licensed and experienced theatrical armourer to:
  - advise you of the legal status of weapons, including imitation weapons; and
  - supply and instruct screen personnel on safe use.
- If a weapon is capable of causing injury or worse, assume it is prohibited.
- Talk with the police in your production location to see if weapons can be possessed or used and if they can be used, what conditions apply.
- Give the strongest consideration to using 'dummy' / imitation weapons.
- If using dangerous weapons, rehearse scenes on multiple occasions.
- Use creative camera angles and editing to simulate danger rather than endanger people.

PCBU
Producer, 1st AD, Theatrical Armourer, Safety Supervisor, Stunt Coordinator

PROHIBITED WEAPONS
Crossbows, slingshots, mace, knives, nunchakus, tasers, extendable batons, handcuffs, imitation bombs, some knives, and some whips are commonly classified as prohibited weapons throughout Australia.

Where possession and/or use is permitted, it is generally subject to the issue of a permit or licence. Obtaining a permit or licence can depend on the permit or licence holder undertaking training in the handling and use of the weapon.

Without lawful authority and/or 'reasonable excuse', possessing and/or using a prohibited weapon constitutes a criminal offence.

It is increasingly the case, however, that states and territories permit possession and use of prohibited weapons for screen (and theatre) purposes. In NSW, a prohibited weapon can be held where an applicant for a permit establishes a *genuine reason* for possessing or using a weapon where the production requires the possession or use of the prohibited weapon - (see Weapons Prohibition Act 1998 – NSW).

As states and territories have their own particular lists of prohibited weapons and associated licensing/permit arrangements, you must conduct your own due diligence to ensure that your production isn't going to break the law.

THEATRICAL ARMOURER
Notwithstanding the above, a theatrical armourer must be engaged and on set when prohibited weapons (licensed or not) are in use. It is strongly advised that the theatrical armourer be used to obtain any weapons involved in the production. The theatrical armourer will have the necessary permits to possess and supply the relevant weapons.

It is the primary function of the theatrical armourer to ensure that the weapons under their control do not cause harm to the cast, crew, or production property.

The theatrical armourer is to be present whenever a scene with a weapon is to be shot. They present the actor with the weapon just prior to the scene, and they take control of the weapon when the scene is done.

If you cannot source a prohibited weapon through an experienced theatrical armourer or have some other credible licensed source of supply, use imitation weapons. (Note, however, that even prop imitation weapons may require a licence for their manufacture.)

KNIVES AND OTHER SHARP-EDGE WEAPONS
You should note that knives in general cannot be possessed without reasonable excuse in public areas. Some knives, especially 'exotic' items such as butterfly knives, are also classified as prohibited weapons; these are illegal to possess or carry. Consult your theatrical armourer about using anything other than a bread-and-butter knife or standard kitchen knife in a scene.

Where a knife is to be used in screen productions, the first question that should be canvassed is whether a real, bladed knife must be used? If your production can substitute a real knife with a dummy knife or a knife with a blunted edge, do it. (You can do a close-up of a real one and use dummy/modified knives in scenes where movement is scripted.)

OTHER SHARP-EDGED WEAPONS

In general, swords such as a sabre, cutlass, samurai sword, katana, etc fall outside the scope of the Weapons Prohibition. You do not need a licence or permit to own one. Be aware however that in many states, possession of an offensive implement in a public place without reasonable cause is an offence.

Butterfly, flick, star, and ballistic knives are usually listed as prohibited weapons and require permits for possession.

Martial arts weapons (star knives and nunchakus) and/or medieval weaponry (mace, flail, whips that are shot loaded or contain metal), together with blowpipes and slingshots are also generally classified as prohibited weapons.

CROSSBOWS

In most Australian states, crossbows are classified as prohibited weapons. Where this classification is in place, the operation of a crossbow *may* require the user to possess a licence / permit and will undertake training prior to the issue of the licence.

If a production is planning on using crossbows, a theatrical armourer must be engaged to supply and oversight their use. Only an experienced armourer can provide appropriate safety guidance.

The bottom line is crossbows and longbows due to their projectile firing capability are weapons capable of causing significant injury and/or death. They should be treated with the same caution one would give to a conventional firearm.

SAFETY ON SET

Safety on set is the responsibility of the producer, the director and the first assistant director (First AD). The First AD will be the producer's voice on set: responsible for on set safety calls with input from the safety supervisor and armourer.

Each day, the First AD and the armourer should discuss the proposed schedule of use and the safe storage of the weapons between use. The First AD should be satisfied that the weapons brought to set are safe and where necessary, unloaded.

REHEARSAL AND CHOREOGRAPHY

There must be adequate time for rehearsals for performers, including stunt performers, to become familiar with the way a scene can be safely (and realistically) shot. Performers must be instructed in the safe use of the weapon(s) in any scene. No scene or rehearsal should proceed without safe weapons instruction / induction having taken place.

If a real sharp-edged weapon is used in the production and there is interplay between characters, the most careful rehearsals must be undertaken. These rehearsals must use dummy/modified weapons and be professionally choreographed.

If weapons will be used during the fight scene, take some time to swing and move them on the stage, noting that the sheer weight of swords and poles (real or imitation) can cause serious injury. Performers (including stunt performers) must be able to move safely through the environment without hitting anything (e.g., props), tripping or otherwise hurting themselves.

Choreography is key. It must be methodical, and the cast involved must stick to the agreed steps, as mapped out by the safety supervisor, stunt co-ordinator, armourer, DP and key grip.

Check that props are secure and out of the weapon's arc. Check that the flooring surface is stable and free of cables and other obstacles.

You must also consider breaking down scenes into short exchanges and using editing to aid continuity after everything is in the can.

3. PYROTECHNICS & OTHER SPECIAL EFFECTS

This note steps users through the relevant planning and execution stages of special effects use. It is an area where safety and safety procedures cannot be compromised and where specialist advice and personnel must be present.

GOLDEN RULES

- Engage a qualified, experienced SFX Coordinator and Safety Supervisor and prepare a Safety Plan.
- Allow sufficient time in the production schedule, especially pre-production, for planning and undertaking the effect.
- Advise all crew and cast of proposed timing and nature of special FX as part of their safety briefing.
- Consider whether use of SFX can be avoided and the scene's result achieved another way – e.g., digitally.
- Create an Emergency Plan and inform all crew and cast of the procedures.

PCBU

Producer, Director, Safety Supervisor, SFX Coordinator

RULES AND LAWS

The use of equipment and substances involved in the creation and use of special effects is subject to a wealth of regulations and other controls in each Australian jurisdiction. These include workplace health and safety legislation and regulations, regulation of the use of explosives (including fireworks), codes of practice and Australian (and New Zealand) Standards. Several states make distinctions between on-set use of explosives and pyrotechnics and those used in open areas.

EXPLOSIVES AND PYROTECHNICAL LEGISLATION

- Australian Capital Territory – *Dangerous Substances Act 2004*, *Dangerous Substances (Explosives) Regulation 2004*, *Dangerous Substances (General) Regulation 2004*
- New South Wales - *Explosives Act 2003*, *Explosives Regulation 2005*
- Northern Territory – *Dangerous Goods Act 1998*, *Dangerous Goods Regulations 1985*
- Queensland – *Explosives Act 1999*, *Explosives Regulation 2017*
- South Australia – *Explosives Act 1936*, *Explosives Regulations 2011*, *Explosives (Fireworks) Regulations 2016*
- Victoria – *Dangerous Goods Act 1985*, *Dangerous Goods (Explosives) Regulations 2011*
- Western Australia - *Dangerous Goods Safety Act 2004*, *Dangerous Goods Safety (Explosives) Regulations 2007*

AUSTRALIAN AND NEW ZEALAND STANDARDS

- AS 2187.2-2006 Explosives – Storage and use – Use of explosives.
- AS 2187.3-1999 Explosives – Storage, transport, and use – Pyrotechnics – Shop goods fireworks – Design, performance, and testing.
- AS/NZS 2211.3:2002 Safety of laser products – Guidance for laser displays and shows.

RISK MANAGEMENT – GENERAL

Special effects can cause many types of injuries and in extreme cases, death. Types of injuries can include burns, slips, and falls, respiratory conditions, flash/eye injuries, concussion, lacerations, and hearing issues. Special effects hazards can also result in fire, water damage, explosions, hazardous leaks, and spills.

Whenever a special effects or hazardous sequence is to be shot, the Producer must ensure that a risk assessment is undertaken, and that the Safety Supervisor and SFX Coordinator are present.

The Director and, where appropriate, production staff including the Designer will discuss the proposed sequence(s) with the SFX Coordinator in pre-production.

At this time, preparation of a Safety Plan must commence. This plan must identify:

- The type of special effects to be deployed and the substances used;
- The licenses and other permissions required (where relevant);
- The potential risks of these substances and measures to mitigate or eliminate exposure;
- The number of personnel (crew and cast) required to be present when special effects are deployed and measures to reduce the number of vulnerable personnel;
- The likely time required for preparation and execution of the special effects; and
- The basic framework for dealing with emergencies: which services and on-site medical resources.

The script breakdown safety report will highlight scenes that require SFX and refer these scenes to the SFX Coordinator. The SFX Coordinator will then submit a Risk Assessment or SWMS in relation to the scenes in the production.

CONTROL MEASURES

The producer is responsible for ensuring appropriate communication, coordination, and control of the overall event, taking into account any risk assessments from others, including any Safety Supervisor, SFX or other specialist contractors involved in the production.

SFX Co-ordinator / Supervisor

All the activities involved in the designing, formulating, setting up, initiating, triggering, carrying out and/or altering a special effect will be supervised by an SFX Coordinator. The relevant professional will have completed accredited training and be licensed in fireworks/explosives storage, monitoring, control, and overall risk management.

The SPFX supervisor should clearly identify:

- the intended action;
- possible deviations;
- communication signals and chain of command;
- authority to abort event;
- acceptable avenues of escape; and
- the location of necessary safety equipment and personnel.

The SPFX supervisor will also be responsible for:

- ensuring all SPFX technicians have the necessary skills and credentials;
- carry out adequate testing of all special effects during pre-production and, where possible, ensure that such testing is carried out in the presence of all relevant heads of department and those cast members involved;
- set exclusions zones based on testing data to contain risk to cast and crew;
- always have in their possession all necessary permits and licences, together with information on all relevant chemical compositions and safety guidelines regarding the use of pyrotechnics and flammable materials;
- ensure notification is made to the appropriate authorities about the planned use of explosives and pyrotechnics or open flames;
- organising a walk-through and safety brief before any hazardous sequence;
- aborting or deferring execution of SFX when necessary; and
- preparing an emergency response plan, which includes acceptable avenues of escape and fire-fighting equipment.

The producer and SFX Supervisor should otherwise ensure that:

- ensure adequate time and resources are allowed, including for rehearsals and/or testing for the effect based on advice from the special effects personnel;
- additional time is provided within the schedule for misfires or changes of plan;

- adequate arrangements are in place for communicating the risks and safety arrangements to all those involved and where relevant, nearby communities;
- ensure all cast and crew are aware that explosives and pyrotechnics, open flame/fire sequences or smoke producing equipment will be used, through both prior notice and on daily call sheets; and
- ensure workers are aware of risks associated with special effects and provided with appropriate personal protective equipment (PPE).

TESTING SPECIAL EFFECTS AND DRY RUNS

- Special effects using explosives should be tested in the presence of the SFX Coordinator, the Safety Supervisor, and essential personnel only. Testing should be performed by a person who holds a License to Test Pyrotechnics or Explosives. Results of all testing should be recorded.
- Testing is required to determine safe distances, minimum quantities of explosive necessary to produce the effect, etc. Testing should be scheduled away from the day's shooting and prior to filming the effect.
- Firing devices and circuits should conform to Australian Standard (AS) 2187.2 Appendix B. Firing circuits should be tested, without fail, by a firing circuit galvanometer, on a cleared set.
- Where objects are to be projected into the air, the testing method should be with the objects themselves or their equivalent to ensure the effect and the outcome is simulated.
- Any subsequent changes made to the effect after initial testing will require a rerun of the testing procedure.
- Only persons and crew necessary for the purpose of filming will be in the explosives/firing area during any testing or filming. All other personnel will be cleared away from the explosives/firing area. The details of these personnel will be clearly stated in the call sheet.

CAST

- Actors are to be allowed reasonable pre-production time, as specified by the SFX Coordinator, to work with the SFX Coordinator when the actor is required to work with explosive or pyrotechnic effects, weapons, or any other special effect.
- Any crew or cast member shall have the right not to work where such member reasonably considers that he or she is at risk.
- The SFX Coordinator in consultation with the Wardrobe Department Head, will take steps to ensure that costumes and wigs for potentially dangerous situations (e.g., sequences utilizing fire, explosives, etc.) are of materials which do not present a potential safety hazard.
- Hazardous scenes should be scheduled and completed within the first eight hours of the shift of each worker directly involved in the hazardous action, with the scene scheduled as early in the day as is practicable.

PROCEDURE FOR DEPLOYING EXPLOSIVE SPECIAL EFFECTS

- No explosive or pyrotechnic effect will occur unless there is a direct line of sight for the SFX Coordinator to the site of the effect.
- In studios, monitors should never be used to control explosive or pyrotechnic effects. When multiple effects are being fired, assistant/s should be engaged to work with the Coordinator to observe the nature of the effect and to check the number of effects that fired.
- The laying of charges should not take place until crew, cast and all other non-essential personnel have withdrawn from the site to a designated safe area. The SFX Coordinator or Safety Supervisor will indicate to the 1st Assistant Director the designated safe area to which non-essential personnel should withdraw. The 1st Assistant Director should ensure that all non-essential personnel remain in the designated safe area until the effect is completed.
- Whenever any explosive device is installed in studio or location scenery, a warning sign should be fixed to the scenery and may only be removed when the scenery has been cleared by the Special Effects Coordinator.
- A sequence of firing cues and a strict routine of rehearsals should be established and understood by all involved. Emergency procedures for each effect should be explained.

- There should be an agreed clear and unambiguous system for cueing an effect (this may need to incorporate both sound and vision). The special effects person responsible for setting off any explosive, pyrotechnic or firing the effect should have a clear line of sight to it. The cueing arrangements should be rehearsed in situ before the effect is performed.
- The SFX Coordinator will be the only person in possession of the source of power for firing.
- Any one of the safety supervisor, 1st Assistant Director and/or Director of Photography/Camera Operator has the authority to inform the Director that a special effect should be cancelled if, in their opinion, any cast or crew member of member of the public is at unacceptable risk.
- The command to arm the circuits should be given by the 1st AD immediately prior to, or on, camera roll. This should be followed by the conformation "armed".
- A command to disarm circuits should immediately follow a "cut" command, again given by the 1st Assistant Director. The battery box, firing device key. etc., should always be disconnected after a firing and firing cables shunted.
- After a successful firing, the SFX Coordinator should make a full inspection of the explosion area and take the necessary steps to render it safe prior to anyone else entering the site, checking that all components have fired, that all hazardous, burning, or smouldering material is removed and that the site is made safe. They should be in direct communication with all key players.

In the event of a misfire:

- everyone should be clearly told by the SFX Coordinator;
- the entire affected area should be cleared;
- the battery, key or other device should be disconnected;
- the effect should be observed from a safe distance for signs of hang fire, smoke, etc., by the coordinator and left for 15 minutes or 30 minutes in the case of non-electrical devices;
- all potential causes of failure should be checked before the effect is approached;
- if nothing appears wrong, then it is best to re-site the new charge and delay unmaking the existing one for as long as possible; and
- if the misfire should be unmade, then only the SFX Coordinator shall do so, exercising the utmost caution and assisted by other department members only if necessary.

NON-EXPLOSIVE SPECIAL EFFECTS

Projectiles – air propelled projectiles, drop effects, confetti, petal drops, balloons

Ensure that the discharge of projectiles is not toward production staff. Contents of effects such as confetti cannons need to be made of soft materials with the aim of eliminating the chance of strike injuries. Any pressure settings should be rigorously checked and refined for each deployment.

Atmospherics – smoke, hazers, dry ice

Only approved substances are to be used in the production of atmospheric effects such as smoke, haze, and dry ice. Safe Work Method Statements (SWMS) and risk assessments are all essential to assist in eliminating risks associated with atmospheric effects such as slips, falls, asphyxia, and disorientation.

Cast and crew should be warned of the risk caused by artificial smoke and mists, and effects, to sufferers of bronchial disorders, who will require appropriate respiratory equipment if required to be in the vicinity the effect.

The type of chemical selected should cause the least respiratory irritation and be safe to use.

Dense artificial smoke can be highly flammable. Special care should be taken to prevent ignition from any source. An MSDS for each substance used should be immediately at hand.

When using smoke on an interior set on location, the creator(s) needs to provide a means to exhaust or ventilate the set and ensure that only those persons necessary for the effects deployment are in the vicinity.

The development of a hazard management strategy for atmospheric effects should include:

- Avoiding using physical effects if the result can be achieved another way, e.g., digitally;
- Ensuring adequate information is available about the substance and equipment to be used to create the effect. e.g., Chemical composition, known health effects, any special characteristics such as explosiveness and first aid procedures;
- Only purchasing products from a reliable supplier and not using special brews or concoctions on the basis that the ingredients are a "trade" secret;
- Using the substance with the least likely potential for giving rise to side effects using the lowest concentration needed to achieve the desired effect;
- Avoiding substances known to contain inert minerals, e.g., talc and silica;
- Using appropriate, well maintained respiratory protection;
- Ensuring all substances used for creating fogs and smoke are stored, labelled, and handled appropriately;
- Ensuring adequate first aid and facilities are available to manage any side effects that may be experienced by people expose to the substance, e.g., breathing difficulties, skin irritations, runny eyes, sore throat, dizziness, etc.;
- Periodically ventilating/exhausting the contaminated area, both vertically and laterally; and
- Excluding all non-essential personnel and animals from the contaminated area.

WATER EFFECTS

Use of large quantities of water for a special effect can bring with it many types of hazards, including electrical shocks or electrocution, flooding, together with transmission of water borne contaminants. Each of these risks needs to be assessed and appropriate control measures put in place. Some the procedures and control measures to be implemented are:

- Only appropriately licensed and authorised personnel can draw water from hydrants and standpipes;
- All personnel operating nozzles must be adequately trained in their use;
- Fire hoses must be routed to minimise danger (of electrocution or whiplash from the fire hose) if a coupling failure occurs;
- Hoses must be maintained in sound working order to avoid rupture;
- Ramps must be used to cover hoses whenever there is pedestrian or vehicular traffic; and
- Rain stands and sprinklers must be adequately sandbagged and secured to prevent them from toppling over.

When snow effects are being carried out, the substances used should have a Material Safety Data Sheet (MSDS) and be used in accordance with relevant technical information. Shaved styrene flakes should never be used to create snow effects as it ordinarily contains chemicals whose health effects can include irritation of the skin, eyes, and the upper respiratory tract.

When large volumes of water are to be used, the drainage capacity of the area should be assessed by a hydraulic engineer and, where necessary, made adequate to cope with the increased volume of water.

Where reticulated piping is installed on or attached to roofs, the structure should be inspected and assessed by a structural engineer to ensure the additional pressure and load can be carried. The roof itself should be made watertight.

ELECTRICAL SAFETY WITH RAIN AND WATER EFFECTS

You should also note that AS/NZS 4249: Electrical safety practices—Film, video and television sites must be complied with during rain and wet-down effects. These requirements include:

- All electrical cables must be insulated and must be kept off the ground wherever possible to avoid electrical current being carried through the water;

- All single-phase and three-phase outlets, leads and three-pin connections must be kept dry; and
- Where possible, submersible cables should be used.

HAZARDOUS PROPS – BREAKAWAYS, BREAKABLES, EXPLODING MATERIALS

Specialist props can be a source of risks particularly when they are breakaways, sugar glass, exploding or other breakable materials. Special care should be taken when designing and constructing these special effects, and the execution of them should be undertaken in a controlled manner.

Extensive trials and rehearsals will be required in order to mitigate risks and unintended outcomes that could endanger the health and safety of crew, performers, audience members or the public.

Safety procedures should reflect the fact that breakaway props are designed to collapse and are therefore potentially dangerous. Their use should be supervised by a SFX Coordinator or Designer with specific experience and knowledge of breakaways.

Only essential personnel shall be allowed near breakaways. Safety lines should be erected to clearly mark "essential personnel only" areas. Breakaways should be fenced off and kept secure when not in use.

SPECIALIST LIGHTING – LASERS, STROBES, STROBE LIKE EFFECTS, UV LIGHTING

NOTE – Some forms of specialist lighting, particularly strobe effects can have detrimental health implications for some individuals. A competent and suitably trained operator should supervise their use and appropriate warnings should be given.

LASERS

Use of lasers in a production environment may require special permission and depending on the laser deployed, a licensed operator may also be required. Lasers (Light Amplification by Stimulated Emission of Radiation) produce narrow beams of ordered light rays in the infrared, visible light, and ultraviolet range.

There are five classes of lasers:

- class 1 products only are considered intrinsically safe A Class 1 laser can be used without a licence by any competent person;
- class 2 emit visible radiation but are considered safe when you assume a normal blink reflex and do not stare at the beam; and
- class 3A, 3B and class 4. will only be used by a person who is qualified, competent, and experienced in the use of lasers and in accordance with AS 2397. These classes of laser should not be used for display purposes except under carefully controlled conditions by a competent trained operator.

Lasers used for effect can create a severe hazard to people in a short space of time. The eyes and skin are particularly susceptible to damage.

When extensive use will be made of lasers, a laser safety supervisor will be appointed to oversee the selection, planning, setting up, operation and dismantling of the laser/s.

A risk assessment should be undertaken detailing:

(a) intended scope of use, display in both plan and elevation, positions of laser sources, mirrors and target areas with relevant distances and dimensions;

(b) the need or otherwise to engage a laser safety supervisor;

(c) control measures in the event of power failure or knocking of the laser device that might result in freezing or displacement of the laser beam; and

(d) for outdoor performances, control measures to ensure no interference occurs with the installation and control of reflection for surrounding structures.

All personnel should be adequately briefed regarding any safety procedures and the specific action/s which need to be taken to avoid injury from the beam and/or reflection. No person should be exposed to radiation more than maximum permissible limits.

A laser or laser product should not be operated unless it has been classified and labelled in accordance with AS 2211. Laser installations (all types) must not be altered and/or tampered with by any person other than a qualified and competent person.

WIND – FANS

Wind machines vary in size from small hand-held devices that produce small flows of air to large wind machines that can produce very high and potentially destructive pressures.

Apart from the standard electrical test and tag verification, special care must be taken in assessing the action of blades, control positions, surrounding scenery and travel of performers in front of the wind stream. Fans must have their blades guarded and their intake areas free of loose or dangerous materials. As with any other special effect, only the persons necessary to the scene's production should be in the vicinity of the fan while in operation.

FIRE

Takes involving fire should be kept to the absolute minimum. Comprehensive planning and fully detailed rehearsals are critical to ensure total coordination of all aspects of the effect. Special attention should be given to "light up" and "extinguish" cues with all personnel aware of the exact sequence.

Consideration should be given to the chemical composition of materials that are to be burned as some may emit toxic gases/particles.

All personnel working in the area should be well-briefed on the scope of the effect and on related emergency procedures. Advance warning should be given to all performers, including stunt performers of any work involving open fire and/or naked flames. Consideration should be given to preventing personnel being down wind of flame/smoke, etc.

An SFX Coordinator with specific experience and a working knowledge of fire control should be engaged. The SFX Coordinator will be responsible for supervising, designing, formulating, setting up, initiating, triggering, carrying out and/or altering the fire effect.

The Producer should ensure that the nearest fire brigade is notified, and that fire prevention / firefighting equipment and personnel are on set (in studio or on location) is provided in accordance with the SFX Coordinator's recommendations and as detailed in the risk assessment/Safety Report.

The gelling up of liquid fuels (petrol, diesel, and kerosene) creates a sticky product which is extremely volatile and should be used very soon after its application. Care should be taken when extinguishing fires created using these products to avoid unintentionally spreading the fire. To avoid accidental re-ignition, sufficient time should be allowed for cooling between takes prior to refuelling.

The set or location being used should be adequately ventilated to avoid smoke inhalation and have sufficient fire exits served by well-marked paths that are kept clear always. Overhead ventilation should be available for large studio fire effects to prevent heat building up at ceiling level.

Studio areas should be cleared of excess rubbish, e.g., Extra set materials, sawdust, and papers. Flammables and combustibles should be kept at a safe distance from open flames. Special care should be taken where sound proofed walls and ceilings are made of flammable material.

Gas fuelled fires should be designed, built, and installed by a licensed gas fitter. All gas lines and fittings should be installed in accordance with the applicable building codes, fire codes and Australian Standards. Gas fuelled fires should be adequately supported on metal plates which are covered by fire resistant material and raised sufficiently to prevent damage to surfaces.

When used to act as a fire accelerant in interiors, continual ventilation should be initiated until ignition or clean up and storage is completed. Further, such materials shall be kept in approved containers. Each propane tank should have a single action “shut off” mechanism and its location shall have an operator who has a clear view of propane fires at all times.

Where vehicles are involved in fire or explosive effects, the SFX Coordinator should ensure that the petrol tank is empty and split wide open, purged of fuel/vapour and filled with water or preferably completely removed. The drive shaft should be drilled in several placed and all loose material inside the cabin removed.

No synthetic clothing should be worn around pyrotechnic SFX. Costumes should be made of natural fabrics and wigs made of real hair treated with fire retardant mixtures whenever performers are required to work near fire.

FLARES

Flares are incendiary devices. The surface on which the flare burns should be sufficiently protected from heat to minimise the risk of fire. When working on surfaces that may be damaged by heat, a sheet metal flare tray should be raised on bricks above a sheet of non-flammable mineral insulation board which itself should also be raised further on bricks.

When working in confined spaces sufficient ventilation should be available to remove the smoke and heat produced by flare combustion. The provisions set out in relevant legislation and Australian Standards should be strictly adhered to when working in confined spaces.

Personnel should be made aware that high temperature particles may be ejected from a flare at the end of the burning time as a result of dampness in the device and/or pressure build-up and steps should be taken to avoid being burnt.

GAS CYLINDERS AND ASSOCIATED EQUIPMENT

Some of the key rules to observe when using LPG and LPG tanks are:

- When LPG is used to provide a yellow flame, carbon monoxide is produced, so adequate ventilation needs to be maintained;
- Each LPG tank should have a single-action shut off mechanism and its "shut-off” location known;
- The LPG operator must always have a clear view of any LPG fires;
- All gas lines in connection with the use of open flames need to be rated and appropriate for use with gas/LPG;
- All stationary open flame fixtures and devices need to be firmly secured;

- The fuel source for special effects fire rigs needs to be sufficiently isolated/ bunkered/ distanced from the remainder of the crew to avoid any risk to personnel in the event of a flash back. The use of flash back arresters is advised;
- On an interior set where smoke and open flame are used together, precautions must be taken to ensure the smoke does not reach a level of density where it could ignite from the open flame;
- All gas cylinders used to create special effects should be designed, certified, and inspected in accordance with the requirements of AS 2030.1 – 1955: Cylinders for Compressed Gases other than Acetylene; and
- Gas cylinders that have been modified, cut, painted, altered, or otherwise tampered with will not be permitted in the production environment unless inspected, tested, and certified for use by a competent person.

4. STUNTS

GOLDEN RULES

- Check the stunt performer is properly classified to perform the stunt(s) required.
- Stunt personnel can only be asked to do work within their skill and classification level.
- Dry runs and walk-throughs of planned stunts are essential.
- Engage a Safety Supervisor / Stunt Co-ordinator to oversee all stunt work.
- Have an emergency plan in place, including the availability of medical personnel.

Only accredited stunt performers may perform stunt actions. Grading of stunt performers is conducted in Australia by MEAA's National Stunt Committee.

There are five stunt classifications:

- Stunt Action Person (SAP);
- Stunt Actors;
- Safety Consultant/Supervisor;
- Assistant Stunt Coordinator; and
- Stunt Coordinators.

More information about the competencies for these positions and related matters can be found in the Media, Entertainment & Arts Alliance **National Stunt Committee Grading Procedure:** **https://www.meaa.org/download/national-stunt-grading-procedure/**

PCBU

Producer, 1ST Assistant Director, Safety Supervisor, Stunt Co-ordinator

As with other areas of work involving risk, it is the PCBU's duty to ensure that risk is eliminated, or where that is not feasible, implement a range of control measures to reduce risk levels. This is achieved through the preparation of a mandatory risk assessment for all stunt action sequences.

The Producer shall ensure that the Stunt Coordinator liaises with the Safety Supervisor, 1st Assistant Director and Director of Photography/Camera Operator regarding the safety requirements of stunts and the positioning of all cast, crew, and cameras.

All the activities involved in the designing, formulating, setting up, initiating, triggering, carrying out and/or altering a stunt will be risk-assessed and supervised by a Safety Supervisor / Stunt Coordinator who holds the appropriate license(s) and/or other certificates of competency relevant to the tasks involved.

It is essential that sufficient pre-production time should be allowed to enable the Stunt/Special Effects Coordinator to fully research, prepare, set up, initiate, and monitor the special effect/stunt to ensure the safety precautions set out in the Safety Report (arising from the risk assessment) are fully implemented.

As the date at which the stunt activity is to be rehearsed and/or filmed, a location survey should be conducted in advance of the rehearsal/filming activity. The following personnel participate in location surveys no less than three days prior to the stunt/special effect being performed:

- Producer
- Director
- First Assistant Director
- Safety supervisor
- Location/Production Manager
- Stunt/Special Effect Coordinator/
- Director of Photography/Camera Operator
- Art Director
- Key Grip
- Gaffer

The producer will ensure that a report arising from the location survey is distributed to all heads of department no later than two full days prior to the filming of the stunt/special effect. The producer will ensure that a written report on the stunt/special effect be provided to all crew and cast members and attached to the relevant Daily Call Sheet. This report will include:

- A detailed description of the stunt/special effect as supplied by the Director;
- General safety information for relevant personnel;
- An estimation of camera positions and any special rigs;
- The names of the Coordinator, the stunt/special effect assistance and personnel and the Safety supervisor / consultant and any assigned Safety Supervisor;
- The date and approximate time of day of the stunt/special effect;
- Weather forecasts; and
- Location of medical facilities and procedures to be followed in the event of an accident, including emergency service contacts.

The producer will also ensure that the crew and cast are given a full verbal briefing that will encompass all information outlined in these guidelines immediately prior to the executions of the special effect/stunt/hazardous filming.

The Stunt Coordinator in conjunction with the Safety Supervisor will set safe positions for cast, crew, cameras, and equipment and if necessary, onlookers in relation to the stunt and/or hazardous action.

The Stunt Coordinator in liaison with the Safety Supervisor will ensure that only essential personnel are in close proximity to the stunt/special effect. Where personnel are in proximity to the stunt, appropriate personnel protective equipment (PPE) is to be supplied and worn when necessary.

The Safety Supervisor, 1st Assistant Director and/or Director of Photography/Camera Operator have the authority to inform the Director that a stunt or hazardous action is unable to be performed safely and to cancel the stunt or hazardous action and to advise the crew and cast to not work. This rule applies to all stunt actions.

If the stunt Coordinator is performing the stunt or hazardous action, then the stunt Coordinator must be relieved from the stunt coordinator role and all its responsibilities and producer must appoint another stunt coordinator to oversee the stunt and or hazardous action.

SPECIAL EFFECTS (SPFX)

The procedures set out above apply and are subject to the following requirements.

In the event of a combined stunt and special effect, adequate communication should be established and maintained between the Stunt and Special Effects Coordinators.

All the activities involved in the designing, formulating, setting up, initiating, triggering, carrying out and/or altering a special effect will be supervised by a competent and experienced Special Effects Coordinator. The producer will ensure that a Special Effects Coordinator is present at any time that special effect is performed.

The producer will ensure that a Safety Supervisor is present at any time that a SPFX or hazardous sequence is performed. All special effects involving hazardous actions and/or substances will be the subject of risk assessment.

Where hazardous substances are used in a stunt, persons experienced and competent in their handling – and in possession of the relevant Material Safety Data Sheet (MSDS) – shall be present, together with first aid/medical resources.

ACTORS

The Producer, Safety Supervisor or Stunt Coordinator (as appropriate) will ensure that all actors are allowed reasonable pre-production time, as specified by the Stunt Coordinator, to work with the Coordinator or any other head of department where the actor is required to work with horses, bikes, vehicles, boats, animals, weapons or to perform in the fight sequences or sport sequences.

It is the responsibility of all actors to inform the Producer of their abilities in regard to action sequences. Any cast member has the right not to work where they believe they are exposed to unreasonable risk.

STUNT ACTIONS

All stunt actions must be canvassed in the risk assessment and safety report. These documents will detail the scope of the stunt action, the evident risks and particular control measures to manage such risks. The following is for *general guidance* only.

MOTOR VEHICLES – SEE ALSO NOTE ON VEHICLES

All motor vehicle stunt activities may only be performed by competent and accredited stunt performers.

The producer will ensure that all vehicles to be driven for any stunts and/or hazardous driving sequences are checked prior to use by a qualified mechanic to ensure that such vehicles are safe and fit for purpose.

The Producer will ensure that any and all mechanical alterations and/or modifications to vehicles to be used to stunts and/or hazardous driving sequences are carried out by appropriately qualified technicians/tradespersons.

FALLS FROM MOVING VEHICLES – SEE ALSO MOTOR VEHICLES SECTION

Jump stunts from vehicles should be fully rehearsed and shot under controlled conditions.

The Wardrobe Coordinator shall give consideration in pre-production to allowing for padding being inserted in the stunt performer's clothing.

All traffic should be held, and the road closed for the duration of the action, suitable safe landing areas should be prepared and maintained for the duration of the action.

Direct communications between the 1st Assistant Director, Stunt Coordinator, Safety Supervisor, and stunt drivers should be maintained at all times during the action.

FOOT FALLS

Foot falls may or may not require the use of stunt performers. However, actors shall be given the option of having stunt doubles perform foot falls.

Risk assessments of foot falls should take account of:

- The required action;
- Age and physical ability of the performer including pre-existing medical conditions/prior injuries;
- Location of the action; and
- Design of the shots.

Foot falls on concrete or other hard surfaces should be avoided.

Suitable mats should be provided during rehearsal and where possible, during filming.

Consideration should be given to the wearing of padding, including elbow and knee pads, and, if necessary, incorporated into costumes.

HIGH FALLS

High falls should only be undertaken when it is not possible to achieve the effect by any other means, e.g., digitally, use of wires, redesign of shots, etc.

Fall arrest devices (harnesses, lanyards, mats, box rigs, tire rigs, etc.) should always be provided in setting up landings for high falls.

The protection should be appropriate for the circumstances, of premium quality and maintained in a serviceable condition.

All rigs should be set up and supervised by a Stunt Coordinator who is experienced in their use.

Box rigs should be kept dry and built on dry ground or surfaces. Unused boxes should be on stand-by and on set. Box rigs should not be used for falls over 15 metres.

Qualified and experienced safety personnel should act as spotters around each and every box rig/pad to assist the safety of the stunt performer under the direction of the Stunt Coordinator.

FALLS INTO AIRBAGS

Falls into airbags are <u>not</u> permitted.

SHEER DROPS INCLUDING CLIFF AND BUILDING FACES

At sheer drops, such as cliff or building faces, sufficient rehearsal and training should is required to allow all persons involved in the sequences to perform safely and with confidence.

All crew should wear a safety harness and/or remain at least 3 metres away from any natural (e.g., cliff edge) or built structure.

All other personnel and visitors should be kept well away from any unfenced edge/s.

The edge should be roped off or temporary safety rails installed.

For abseiling, all equipment and ropes should be checked.

A brakeman or braking device should be considered for face-first abseiling by stunt performers and used after rehearsal if required.

A braking device should be used by actors who are involved in abseiling activities.

FALLS INTO WATER – SEE ALSO MARITIME/BOATS SECTION

Stunt personnel required to jump into water should be experienced and capable swimmers.

The Safety Supervisor shall ensure that floating objects and watercraft are kept well clear of the jump site.

Adequate provision shall be made for appropriate wardrobe, on-site warm showers, blankets, heaters, and drinks etc. Wetsuits should be supplied to all cast and crew when specified in the Safety Report.

An underwater survey to check for submerged objects, to verify water depth and quality should be carried out by a safety diver during pre-production and again immediately prior to the jump in consultation with the Stunt Coordinator.

There should be an adequate number of qualified and licensed safety divers for the stunt performers involved, or as specified in the Safety Report.

Except where indicated in the Safety Report, the Safety Supervisor cannot be a safety diver. In open water or other suitable environments, safety boat/s equipped with propeller guards shall remain in attendance for the duration of the stunt work.

EMERGENCIES

The risk assessment and safety report shall specify the medical personnel necessary for the production and, where relevant, for stunt sequences. These personnel must be appropriately qualified and possess the necessary equipment to deal with an emergency having regard to the nature and scope of the stunt/special effect.

It is advisable that production-specific, back-up emergency transport be at the disposal of the medical personnel and that such workers be familiar with emergency procedures and the most direct route to medical/emergency care.

Where specified in a safety report, trained rescue personnel and equipment to safely extract performers from smashed vehicles, hazardous climbing situations and structures and other misadventures should be available.

Details of all emergency provisions should be included in relevant call sheets.

5. MOTOR VEHICLES

GOLDEN RULES

- Prepare a risk assessment and canvas route management issues.
- Have a traffic management plan.
- Using modified or special vehicles will require permission from authorities.
- Ensure you are insured and the eligibility of all drivers re: demerit points etc.

- Inform local authorities and obtain permits for road use, noting that formal road boundaries often include footpath and parking areas.
- All relevant personnel to be licensed to perform tasks.
- Tell the local community what you are doing.
- Private road usage does not mean safety and other rules don't apply.

GENERAL INFORMATION

A production will always need permission to film on public roads and adjacent areas. This normally requires a traffic management plan (TMP). This will be required whether you are using vehicles on a roadway or cast, and crew are making use of a roadway, where no vehicular activity is occurring.

The relevant authority will depend on the nature of the road – Federal, Local or State. Generally, the greater the volume of traffic carried on a road, the less likely permission to film will be granted due to the relative disruption and risks of public safety.

PCBU

Producer, Location Manager, Safety Supervisor (where applicable), Stunt Coordinator (where applicable), Key Grip

CONTROL MEASURES

A Risk Assessment should be prepared that is informed (or incorporated in) a Traffic Management Plan (TMP). This assessment should provide clear instruction on:

- The relevant laws and codes if recording on a public road;
- Procedures to ensure the vehicle(s) is/are fit for purpose, roadworthy, suitably maintained and fully insured;
- Ensure driver/rider is experienced and competent for the specific activity, vehicle and intended conditions;
- The 1st assistant director or person with delegated responsibility should ensure that adequate communication with the driver and traffic controller is established before any driving takes place;
- Ensuring that vehicle occupants are properly restrained; and
- Ensuring that where possible, other road users are not distracted by production activities.

CAMERAS, FILMING AND TRACKING EQUIPMENT

- Select a competent and suitably experienced specialist contractor for vehicle filming.
- Obtain a risk assessment from the contractor and check that it covers expected hazards.
- Equipment should never obstruct or block the view of the driver.
- Ensure equipment is not located in a position that may cause injury to the driver or occupants in the event of an accident.
- When filming from the passenger seat, any airbags for that position should be turned 'off' and all made aware of this reduced level of protection. Make sure the airbags are reinstated on completion of filming. (These actions will require specialist attention.).
- Don't shoot through sunroofs.
- Secure camera & kit i.e., by using a camera strap attached to the seat belt or suitable lanyard.
- Use A Frame/Low Loader where extensive dialogue or action is required.

OTHER TYPES OF VEHICLES

- If filming from the back of a motorbike, ensure the driver is a competent and experienced rider and that the bike is set up for this type of filming e.g., rear footrests etc.

- Safety equipment such as helmets and protective clothing should be provided to the rider and/or equipment operator.
- If using a quad bike, riders and/or passengers must wear a crash helmet, be experienced in its usage, and ideally be fitted with an engine cut-out system and roll bars. Riders should be trained in avoiding overturns and riding the vehicle on a variety of terrains.
- Wherever possible, the use of filming equipment should be simulated in one or more test-run by the persons due to carry out these tasks during production where sufficient prior experience is not in evidence.

TRAFFIC CONTROLLER

When filming on or adjacent to public roads, a designated traffic controller must be engaged and be responsible for carrying out traffic control duties as required. A production's traffic controller should be empowered to stop a shoot if the crew are operating outside of the approved condition of the TMP or other risk arises to production personnel or the general public in the course of rehearsing or shooting a scene.

EXEMPTIONS

Exemptions will be required from road authorities if you are operating a vehicle outside of conventional road rules. Examples include:

- travelling in the back of a trailer;
- riding a bicycle without a helmet;
- driving on the wrong side of the road or exceeding the speed limit e.g., for a car chase sequence
- not using a seatbelt;
- using a modified vehicle – e.g., using camera mounts, rigging, and dressed vehicles such as police cars, left hand drives; and
- using unregistered vehicles in scenes on public roads.

Contact your State or Territory road authority about this where necessary.

COMMUNICATIONS

Clear protocols should be established to inform all relevant production personnel of when vehicle (and trailer/low-loader) movements are scheduled.

These protocols should provide for safe distance for non-essential personnel to be clear of the vehicles and equipment, the expected duration and timing of filming (including rehearsal), plus advice on who is controlling the scene and has the right to terminate action sequences.

FILMING INSIDE A VEHICLE

A filming permit is generally not required to film with a camera inside a normal car as long as the car is moving with the normal flow of traffic, occupants are wearing seatbelts in an effective manner and the driver's vision is not obscured. In any event:

- The camera must be secured for safety;
- The driver of the car should not be distracted, engaged in dialogue, or operating the camera. Their whole focus should be on safely driving the vehicle;
- All equipment to be safety secured in vehicle and at no time protrude through any window;
- All equipment to be tethered so as to not impede or contact with the driver during any expected or unexpected movement of vehicle (during sudden braking or swerving);
- Vehicle handling capabilities not to be compromised;

- The driver is not to be involved in the scene in any way (if this is a requirement then the scene must be shot in another way (low loader set-up or sim travel, etc);
- Factory fitted seat belts must be worn by all persons in the vehicle;
- All passengers must sit in the normal forward-facing position;
- Vehicle to be driven within all road rules and regulations and as per the road conditions at the time; and
- speed limits to be adhered to, noting travelling at much lower speeds than is signed can be hazardous to other road users.

It is nonetheless generally recommended that all close-up filming of actors behind the wheel of moving car on a road be performed using a low-loader.

CAMERA MOUNTS

Use of camera mounts on a vehicle like a hostess tray (side mount) and bonnet rigs may change the dimensions of the vehicle and constitute a breach of the Vehicle Regulations. Your state or territory's road authority must be consulted when altering vehicle dimensions.

Generally, the following rules apply for exterior camera mounts:

- Any side projection caused by the camera mount and camera does not exceed 1 meter;
- Any front or rear projection caused by the camera mount and camera does not exceed 1·2 metres;
- The total height of the vehicle, including the camera mount and camera, complies with relevant State and territory regulations; and
- The camera mount does not move relative to the vehicle during filming.

Use of camera mounts on a public road always requires traffic control of some description so check with the local Police to identify the appropriate practice.

SPECIALIST VEHICLES AND LOW LOADERS

If filming with a specialist filming vehicle e.g., Low-Loader (mounting the car to be filmed on a modified vehicle) or tracking vehicle (filming of a *hero* vehicle from a camera car) police supervision – or supervision approved by Police - is required, as this is considered a "high-risk" activity.

Police decide what resources are needed and will prepare an Action Plan often working in conjunction with traffic management personnel and the relevant road management authority.

Filming with specialist vehicles may be in a "contained site" between traffic control points or on a "non-contained" (open road) using police resources to create a "rolling block."

To film on an open road with specialist filming vehicles, police may position marked police cars at the front and rear of the filming vehicles to create a buffer zone (rolling-block). This separates the filming activity from the general public.

TRACKING VEHICLES

- Police permission for an A-frame or other special rig should be secured.
- The intended location(s) for the rig should be surveyed beforehand to ascertain suitability of corners and other navigation challenges.
- A suitable off-road safe area should be used for rigging and setting up the tracking vehicle.

- The Key Grip should attend such surveys and be satisfied about the suitability of the road/s, the route, and safe areas.
- Only vehicles approved by the Key Grip, in consultation with the Safety Supervisor, Tracking Vehicle Driver and, when relevant, the Stunt Coordinator, can be used for tracking purposes.
- Competent personnel, under the direction of the Key Grip, should do all rigging of equipment.
- Clearance and safety lights should be fixed prominently to the extremities of the tracking vehicle and/or trailer.
- If side mounts are to be used, lead and follow vehicles should stay sufficiently close to provide cover for left or right side.
- Tracking vehicle personnel shall wear reflective vests unless reflections pose problems for filming.
- All personnel should remain within vehicle surrounds while the vehicle is moving – sitting on side rails, leaning out, etc. is not allowed.

TRACKING TRAILERS

- Tracking trailers should comply with the relevant towing regulations and approved by the Safety Supervisor / Stunt Coordinator as appropriate.
- Only essential persons and equipment shall ride on tracking trailers and all persons riding on tracking trailer should wear helmets and other relevant PPE.
- Personnel riding on tracking trailer must be tethered firmly in their position to protect against expected or unexpected vehicle movement(s).
- Start-stop positions should be set to ensure the trailer rig has room to move off the roadway.
- When filming interiors/exteriors of moving vehicles, adequate traffic control procedures should be adopted including stop/slow signs, witches' hats, flashing amber lights, reflective jackets, and police if necessary.
- Effective radio communication should be maintained between the traffic control personnel, drivers, First AD and the Stunt Coordinator &/or Safety Supervisor.
- Safety vehicles should be positioned at the front and rear to the action vehicle wherever possible.
- All stunt/action vehicles should be checked by the Stunt Coordinator to ascertain their suitability for the scripted action. Modification and/or repairs may be required.
- If personnel need to be secured for tracking vehicle/low loader shots or similar, a Safety Supervisor will be present.

ACTION VEHICLES

The appropriate person in charge, nominally the Stunt or vehicle coordinator, must ensure action vehicles:

- Are only used under the control of a competent person; and
- Are fit for purpose.

STUNT PERFORMERS/USE OF LOW LOADERS

Actors should be doubled with stunt performers or the vehicle low-loaded if the action:

- is at or over 60 kph or is intended to cause damage to property;
- requires the tyres to leaves the ground, lose traction or lock;
- involves any special effects or damage to be caused to the vehicle; or
- involves the possibility of an impact, including a near miss, rolling or an explosion.

In any event, both the producer and the actor should feel confident that the actor is capable of safely handling the vehicle during the sequence.

DRY RUN AND AUTHORITY TO ABORT

A "dry run" or "walk through" of any action should be conducted prior to filming with all personnel involved present. An understanding of any intended action, possible deviations, and authority to abort, should be made clear to all concerned.

6. CHILDREN AND YOUNG PEOPLE

Most of this section covers the special considerations that apply to engaging children under 16 years of age in screen productions. This section summarises best practice across a range of Australian jurisdictions. Given there are variations in practice across Australia, you will need to familiarise yourself with the relevant local requirements.

GOLDEN RULES

- Child employment must not adversely affect a child's health, safety, education, moral or material welfare, and must not cause a child to be subject to any form of exploitation.
- Ensure parents / guardians are briefed about the nature of the role and the important script content and written parental consent is obtained.
- Children must be supervised at all times by a person with a Working with Children Check (or equivalent).
- Anyone who directly supervises a child is required to hold a current WWC Check.
- Children will often require an exemption from school and replacement tutoring.
- Records must be kept of children's employment details: hours and days of work, locations, supervisor(s) names.

LEGISLATION AND RESOURCES

- **Australian Capital Territory:** Children and Young People Act 2008, plus Working with Vulnerable People Registration
- **New South Wales**: Children and Young Persons (Care and Protection) Regulation 2015 and Code of Conduct at Schedule 1 plus Working with Children Check
- **Northern Territory:** Care and Protection of Children Act 2007, plus Working with Children Clearance
- **Queensland**: Child Employment Act 2006 and Child Employment Regulation 2016 - Part 3, plus Blue Card
- **South Australia**: Children and Young People (Safety) Act 2017, plus Working with Children Check
- **Tasmania**: Children, Young Persons and their Families Act 1997 - Part 10, Division 1
- **Victoria:** Child Employment Act 2003 and The Guide to the Employment of Young People in the Victorian Entertainment Industry - including the Mandatory Code of Practice plus Working with Children Check
- **West Australia**: Children And Community Services Act 2004, Children And Community Services Regulations 2006, plus Working With Children Check

The main specialised provisions concerning employment of child performers can be found in:

- **New South Wales:** The Code of Conduct at Schedule 1 of the *Children and Young Persons (Care and Protection) (Child Employment) Regulation* 2015
- **Victoria:** Mandatory Code of Practice for the Employment of Children in Entertainment per *the Child Employment Act* 2003

We strongly recommend that productions in jurisdictions without specified codes of conduct adopt the requirements in these Codes.

WORKING WITH CHILDREN CHECKS

A standard requirement across Australia is obtaining ***Working with Children Checks*** (and equivalent clearances). This must be obtained prior to working with children. Anyone who directly supervises a child is required to hold a current WWC Check.

When employing a child, you will normally be required to conduct a risk assessment and maintain an incident register. You will also be required to follow strict limits on the number of hours and days a child can be engaged.

For longer-term productions – 9 or more days - arrangements for school exemptions and alternative schooling will also be required. For shorter productions, a range of school notification and exemption processes may apply.

PCBU

Producer, Director, Agent/Performer Representative, Supervisor, Parent/Guardian.

The PCBU will ordinarily be the producer of the production involving child performances. The producer must seek to eliminate risks that a production may pose to children, or where these risks cannot reasonably be eliminated, implement control measures to reduce risk. As one might expect, the approach to risk reduction in the area of child employment is multi-faceted and a subject of increasingly formal regulation.

It is important to understand that different children will display differing levels of maturity and familiarity with screen production processes. Some will appear lost and anxious while others may be seasoned professionals who relish the prospect of dramatic work. It is best to adopt a precautionary approach in all situations. Don't make assumptions based on limited observations of children. Take care to step them – and their guardian – through the stages of the production and explain how their work fits in that process.

Things to look out for include:

- Being in an unfamiliar environment, the child will be less able to recognise danger;
- They may become lost or be injured if unaccompanied;
- Their inquisitiveness may lead them to take risks;
- They may get tired or anxious, due to stress, pressure or period of working;
- They may be the subject of unwanted social media attention – cyber bullying, internet grooming, bullying by peers and uncontrolled circulation of images or personal data;
- They may not understand technical terminology or jargon; and
- Younger children do not have the ability to differentiate reality and pretend and may become upset by content.

CONTROL MEASURES

Pre-production

It is often the case that casting agencies will identify potential child performers for a production. These agencies will be aware of the considerable requirements and pre-conditions pertaining to child employment in the entertainment sector.

Some of the key considerations during the planning stages are:

- A permit or licence must be issued prior to a child being employed prior to their engagement in Victoria and New South Wales – check your State or Territory's arrangements;
- Before a child is cast in a role or situation, the producer/employer must fully inform the child and a parent of the child of the nature of the role or situation, and the things they will see and hear. The producer must consider any comments of the child or their guardian;
- A child must not be cast in a role or situation that is inappropriate, having regard to the child's age, maturity, emotional or psychological development and sensitivity;
- A child must not:
    - be exposed to scenes that are likely to cause distress to the child;
    - be allowed to become distressed for the purpose of obtaining a more realistic depiction of a particular emotion or reaction; or
    - be employed in any situation in which the genital area, buttocks or (in the case of a female) the breasts of the child or any other person are exposed;
- Before working with children, consent forms will be obtained from the relevant guardian;

- Prepare a risk assessment that outlines the number of children to be used in a production, how and when they will be engaged, whether there are practical dangers or potentially distressing content involved in the performance; and
- Finding out what occupies the child at home (such as a favourite toy or DVD) and duplicating it, is a helpful way of acclimatising the child to the production environment.

Production

- Ensure that the location and/or production environment is as child friendly as possible. Be vigilant around cables, lights, equipment, or anything that has the potential to cause danger to a child.
- All staff on site must be made aware of who is responsible for the child's safety and security and where /who to escalate any concerns.
- Give a safety induction on arrival to the child/young person and their guardian.
- Ensure that the child is supervised at all times by their parent, guardian, or licensed chaperone. Legislation and codes of conduct often mandate supervision arrangements.
- Even when supervision is provided, it is best practice to obtain:
    - consent to seek or administer medical treatment as appropriate;
    - name and contact details of who is to be notified in case of injury or illness;
    - information concerning allergies, medical conditions, and any dietary restrictions; and
    - the name and contact details of person(s) authorised to collect the child.
- Ensure that the child is not over-exerted. Any physical activity is kept to a minimum and is appropriate to their age and physical condition.
- Provide breaks and where appropriate, recreational materials as needed.
- Use age-appropriate words and language to them and around them.
- If the noise on set is kept to a very low level when the child is brought onto set, they will find it less stressful.
- Prepare to be flexible when working with children - they can have irrational fears and phobias which may pop up at any time and mustn't be ignored.

AGE CONSIDERATIONS

As you may expect, the extent of the duty of care to a child performer is linked to the child's age and maturity, experience in the industry and their capacity to perform.

Legislation and Codes of Conduct calibrate the level of care to the age of child performers. For example, in New South Wales, a child who is less than 3 years old must not be employed unless a registered nurse or registered midwife is present at all times. Where this is the case, the employer must adhere to the advice of the registered nurse or registered midwife in all matters (such as the provision of nursing and care of the child and the use of make-up) that relate to the welfare of the child.

BABIES

Special provisions are provided for the employment of babies. Some Australian jurisdictions require express authority to engage a baby less than 12 weeks old in production. You should check the law in your place of production.

In NSW, for example, a baby must not be employed unless:

- a registered nurse or registered midwife is present at all times;
- the registered nurse or registered midwife advises the employer that the baby is suitable for employment;

- the registered nurse or registered midwife advises the employer that the environment in which the baby is to be employed (including, in particular, the lighting and the temperature) will not cause the baby to become distressed; and
- the employer follows the advice of the registered nurse or registered midwife in all matters (such as the provision of nursing and care of the baby and the use of make-up) that relate to the welfare of the baby.

In Victoria, a baby under 12 weeks may only be engaged for *up to one hour* if:

- the parent or guardian is present at all times; and
- advice has been received advice from the parent that the baby:
    - was delivered at full term and in good health;
    - weighed at least 3kg at birth;
    - has no post-natal problems;
    - is feeding successfully; and
    - has had satisfactory weight gain from birth.

PRACTICAL ON-SET ISSUES

- A baby must not be exposed to direct lighting in the course of the baby's employment.
- Make-up must not be applied to a baby in the course of the baby's employment unless the make-up is non-irritating and uncontaminated.
- The baby must not be handled by more than 4 people (including the baby's parent and the registered nurse or registered midwife) during any single period of employment.

LIMITATIONS ON HOURS OF WORK

In NSW and Victoria, a child must not be employed in screen productions[5] to which this clause applies otherwise than in accordance with the following tables:

New South Wales

Age of child	*Maximum days per week*	*Hours during which child may be employed*	*Maximum hours per day*
Under 6 months	1 day	6.00 am–6.00 pm	4 hours
6 months–under 3 years	2 days	6.00 am–6.00 pm	4 hours
3 years–under 8 years	4 days	6.00 am–11.00 pm	6 hours
8 years–under 15 years (or under 16 years for models)	5 days	6.00 am–11.00 pm	8 hours

Victoria

Age of child	*Maximum days per week*	*Hours during which child can be employed*	*Maximum hours per day*	*Consecutive days*
Under 3 years	3 day	6.00 am–6.00 pm	4 hours	3
3 years to up to 8 years	4 days	6.00 am–11.00 pm*	6 hours**	4
8 years to 15 years	5 days	6.00 am–11.00 pm*	8 hours**	5

**A child cannot work beyond 9pm if they are required to attend school on the morning of the following day.*

***A child cannot work for more than 4 hours on any day on which they attend school for 3 hours or more.*

[5] Limitations are greater for live performances

In Victoria, work by children is limited to:

- one shift per day;
- minimum 12-hour break between shifts;
- 10-minute rest break every hour;
- 45-minute meal break every five hours; and
- combined education and working time cannot exceed 40 hours in any week.

Several jurisdictions also regulate shift numbers and duration and requirements for breaks during and between periods of performance.

Again, it is recommended that the above limitations be followed in places where laws, regulations and codes of conduct do not stipulate conditions.

SUPERVISION

Authorised employers need to provide appropriate supervision of children during their employment, taking into account the child's age, sex and degree of maturity. The child must be in view of their supervisor at all times.

Supervisors other than a parent must have a Working with Children Check. There are age-based limits on the number of children able to be supervised by a single supervisor.

States that regulate child performers also require supervisors to possess relevant childcare or nursing credentials where children are under six years of age. If the child is over 6 years old, the employed supervisor or chaperone must be an adult with training and experience in the care of children of that age.

7. ANIMALS

This note covers animal welfare and safety arrangements for cast and crew working with animals.

This note assumes that all animals engaged in screen production are not subject to quarantine regulations.

GOLDEN RULES

- An animal should never be abused, endangered, injured, or deliberately killed for a production.
- Guard against animal stress, harm, and fatigue as for a human being.
- Animals must only be trained, handled, and managed by competent people.
- Experienced Animal Handlers must be engaged for scenes involving animal performance.
- Follow *Codes of Practice* on animal welfare and establish whether a vet must be on set.
- Map out and rehearse screen sequences in pre-production.
- The welfare of animals always has priority over continuing production.
- Provide personnel with PPE and check allergies and phobias prior to filming.

PCBUS

Producer, Animal Handler, Safety Supervisor

Ultimate responsibility for ensuring the welfare of the animals rests with the Producer. The Producer is however entitled and expected to adhere to the advice of a properly credentialled animal handler and where appropriate, any Safety Supervisor to the production.

REGULATION / CODES OF PRACTICE

It is an offence in all states and territories to harm animals.

Several states (including New South Wales and Victoria) have codes of practice to manage the welfare of animals in screen productions. The primary objective of the codes is to prevent cruelty and encourage the considerate treatment of animals on film sets. This extends to the use of images that portray the abuse of animals.

- **Victoria** here: https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria/pocta-act-1986/victorian-codes-of-practice-for-animal-welfare/code-of-practice-for-the-welfare-of-film-animals
- **NSW** here: https://www.dpi.nsw.gov.au/animals-and-livestock/animal-welfare/general/codes-of-practice/film-theatre/code

In NSW, either the Royal Society for the Prevention of Cruelty to Animals NSW (RSPCA) or The NSW Animal Welfare League (AWL) *must* be notified in every case where animals will be involved. Before arrangements are made to obtain or use animals, the Producer or their authorised agent shall complete and forward the relevant notification form and a copy of the relevant script scenes, where applicable, as the means for notifying RSPCA or the AWL.

Irrespective of whether your production is based in a location with an enforceable Code of Practice, you should follow the guidance provided in the Codes.

KEY CODE PRINCIPLES

- An appropriately experienced animal supervisor must be employed whenever animals are being used.
- Adequate pre-production must be allowed for training and familiarisation of animals and performers for the particular sequence involved.
- The wrangler's department (where applicable) must consist of sufficient appropriately skilled and experienced crew to cover the number of animals involved and the complexity of the sequence.
- Facilities for animals during pre-production and production should be consistent with maintaining the animals in safety and good health. This applies to the size and cleanliness of the housing, which should be adequate for comfort, and to the food and water which should be clean and unspoilt.
- Stress, including stress arising from restraint or being held in confined areas for longer than necessary, should be avoided, especially for animals known to be very prone to stress.
- Animals kept under confined conditions should be able to exercise at least once a day.
- Adequate precautions to ensure the general safety of animals, including safety from their predators, should be taken.
- A qualified veterinarian is the only person able to prescribe medication to animals. The vet should examine all animals prior to use to ensure their good health and that they have received all appropriate inoculations and medication.
- Sedation or tranquillisation of animals to alter behaviour of performance is generally prohibited unless the welfare of the animal and production personnel requires such an intervention and is justified on humane grounds.

PRE-PRODUCTION

Formal contractual arrangements should be made between the Producer (or their designated representative), the animal trainers and handlers, and/or the animal owners for services provided.

The contract should specify the responsibilities accepted by the Producer for the animals and the responsibilities of the trainers, handlers, suppliers, and owners, including agreement to abide by the relevant Code.

A contracted animal trainer or handler shall provide written advice to the Producer which details:

- trainer/handler contact numbers;
- veterinary care contact and requirements;
- animal management, care, and transport requirements;
- safety requirements from the trainer/handler department; and
- safety requirements from other departments (e.g., art or location).

CONTROL MEASURES

As a general rule, animals should be pre-conditioned to any unusual behaviour they are likely to experience, even to the extent of familiarisation with clapper boards, boom poles or strange noises likely to occur during production.

Other important steps include:

- **Scope the activity** – discuss with the expert your requirements from the animal. Will it be handled by actors? Is there a need for a familiarisation period with the animal before it can be handled safely? How complex is the task to be performed?
- **Risk assessment** – obtain a risk assessment from the handler. It should describe the following:
    - risks the animal poses to others;
    - welfare requirements for the animal;
    - containment requirements;
    - first aid arrangements required in event of bite / sting;
    - personal protective equipment requirements; and
    - how it may be safely filmed (for example, this may include shooting through a screen to protect the camera operator).
- Locations should be inspected before use each day by an experienced animal trainer or handler (or veterinary surgeon) to ensure that they are free of obstacles or hazards which may injure animals.
- The Producer must take all reasonable steps to prevent interference or disturbance by unauthorised persons to animals on the film set.
- A catching net or other capture equipment should be provided around the set if deemed necessary by the consultant veterinary surgeon, animal trainer or handler.
- The Animals Handler and, where relevant, the Stunt Coordinator shall brief all cast and crew (including the supervisors of any children on set) about safety precautions while animals are on set.
- Protocols should be established to enable the vet or animal trainer to abort scenes where a risk to the animal's welfare is identified.
- Safety precautions may include, but not be limited to, maintaining a safe distance from the animal/s, no personal pets, no feeding, no running, and provision for escape routes.
- The Animal Handler should ascertain (with veterinarian advice, if required) that all animals are disease-free and whether special hygiene precautions are required.
- Notice advising that animals are working shall be noted on the call sheet, together with contact details for the nearest veterinarian.
- Animals that are of different species or are otherwise incompatible should be housed separately to prevent aggression, fear, and distress.
- Equipment or gear (including harnesses or restraints) that is likely to cause distress, pain or injury must not be used on animals.
- Any animal that becomes sick, distressed, injured or is in danger of injuring itself, other animals, or people, shall be withdrawn immediately. Prompt veterinary examination and/or appropriate treatment should be sought for sick, distressed, or injured animals.

ON SET PROCEDURE

- Safety brief – this should be given by the handler prior to the animal being displayed or handled. It should cover all the key points of the risk assessment. Ensure the production team and, if necessary, any audience or members of the public who are present, are advised on what they should and should not do to prevent stressing or alarming the animal, including avoidance of loud noises, bright lights, or sudden movements.

- Safety provision – check that all the requirements of the risk assessment are in place, including first aid arrangements, personal protective equipment, containment arrangements, welfare arrangements, etc.
- A “closed set” notice should be posted on all stages where animals are working, and every effort should be made to maintain a closed set where animals are working on location.
- All personnel who will be working with animals are informed that patience is essential and that training or handling methods involving pain or distress to animals are not permitted.
- Any animal that is not accustomed to the environmental conditions of a set should be held, as far as possible, under conditions with which it is familiar and in which it is not distressed and must be familiarised with the set conditions prior to performing.
- Animals should be pre-conditioned to any unusual stimuli they are likely to experience, including familiarisation with clapperboards, boom poles, lights, and any strange noises likely to occur whilst the animal is on set.
- When animals are on set, the Animal Handler shall liaise directly with the 1st Assistant Director and the Stunt and/or Special Effects Coordinator.
- The wrangling department should comprise sufficient appropriately skilled and experienced crew to cover the number of animals involved and the complexity of the sequence/s.
- Only authorised personnel shall handle the animals.
- The behaviour of some animals can be unpredictable in nature, especially in environments which are unusual to them. The handler must be present at all times when the animal is performing or being displayed and able to monitor the animal’s behaviour. If they have cause for concern, it is their responsibility to either stop the performance or make such changes as are necessary to safeguard the animal and those handling it. Try to minimise the time the animal is required to be handled or displayed.
- Hygiene standards – where contact with the animal or its droppings / urine presents risks associated with viral or bacterial infection, ensure all crew observe strict hygiene practices before eating, drinking or smoking i.e., thoroughly washing skin surfaces with antibacterial soaps / gels. Also, any droppings / urine or other material associated with the animal must be thoroughly cleaned up.
- Accidents – the unpredictable nature of some animals mean that they can get spooked or feel threatened and strike out. Ensure adequate first aid arrangements are in place - for some particularly venomous animals, this may mean knowing which hospital a casualty should be taken to for specialised anti-venom treatment or arranging for this treatment option to be available at a more local hospital.
- The 1st Assistant Director shall clear the set of all animals prior to clearing the set of people at all breaks and at wrap.
- Animal escape – you must know what to do if the animal escapes. If the animal is particularly dangerous, this may include evacuating the venue (without causing panic) and/or notifying the police.

PRODUCTION PERSONNEL SAFETY

- **Approach All Animals with Caution**: Take care to avoid blind spots and approach animals slowly so that they are always aware of your presence. Talk softly as you approach an animal, so it hears you coming. Sudden movements are never a good idea, regardless of the species or breed involved.
- **Stay Alert at All Times**: Bites, kicks, and scratches are often delivered when a handler is distracted. When you are working with animals, they need to have your complete attention at all times. A moment of carelessness is all it takes to sustain a potentially serious injury.
- **Study the Behaviour of the Species**: Handlers must pay close attention to the behavioural signals that an animal displays. It is very important to recognize negative body language—especially the signs of agitation. Horses pin their ears, strike with their teeth, and kick when upset. Be aware of the warning signs by speaking with the handler.
- **Take Precautions against Zoonotic Diseases:** Zoonotic diseases are those that can be transmitted directly from animals to humans. Examples of zoonotic diseases include ringworm, salmonella, herpes B, rabies, hepatitis, and tuberculosis.
- **Minimise Allergic Reactions:** Animals on set may potentially cause sneezing, wheezing, eye irritation, or hives. Some individuals may experience breathing emergencies which require medical assistance. Allergy shots may be necessary to minimize your reaction so that you can safely work with animals in a hands-on capacity. You may also need to entirely avoid certain types of animals if you are severely allergic to them.

- **Inspect Handling Facilities for Safety**: Sharp edges, slippery floors, improper lighting, and other structural hazards are responsible for many accidents and injuries. It is important to maintain a safe work environment and to keep all animal handling equipment in good working order.
- **Wear Personal Protective Equipment**: Items of personal protective equipment can include a variety of options such as safety glasses, latex gloves, masks, steel toed footwear, helmets, coveralls, and lead aprons. If there is a product available and it is appropriate for the task at hand, consider taking advantage of it. Protective equipment can greatly minimize the chances of injury.
- **Restrain Animals Properly**: Securing animals safely can help you to avoid sprains, strains, slip and fall accidents, and other physical injuries. Large animals, such as cattle and horses, should be placed in stocks or stalls. Halters, hobbles, or other restraints can also be utilized. Dogs can be muzzled, and cats can be wrapped gently in towels. In extreme cases, a tranquilizer should be administered by a veterinarian.
- **Have an Exit Strategy**: An exit strategy is especially important when working with large animals in pens, stalls, or chutes. Maintain a clear path of escape at all times.

VETERINARY CARE

A veterinary surgeon must be present on set at all times during training, rehearsal and filming or performances of scenes where the consultant veterinary surgeon considers there is a risk of distress or injury to animals, including but not limited to any scenes involving:

- large numbers of animals;
- animals at an advanced stage of pregnancy;
- very young or very old animals;
- obstacles to movement by animals;
- difficult terrain or ground surfaces;
- adverse weather / reduced visibility; or
- the use of special effects and/or large amounts of fire and/or smoke.

For training, rehearsal and filming or performance of scenes which are considered by the consultant veterinary surgeon not to involve a risk of distress or injury to animals, it is only necessary for the animal trainer or handler to be present on the set. However, an experienced veterinary surgeon must be available to attend animals within a reasonable period of being called.

Any animal that becomes sick or is injured before and during production must be assessed by either the consultant veterinary surgeon or another experienced veterinary surgeon. No drug may be administered to an animal on a set except by, or under the specific directions of, a veterinary surgeon.

Where an animal becomes sick or injured on a set, the Producer or the authorised agent of the Producer shall authorise and pay for any care and treatment deemed appropriate by the attending veterinary surgeon. Such authorisation and payment does not imply acceptance of liability.

The final decision as to whether or not a sick or injured animal should be humanely destroyed rests with the veterinary surgeon, after consultation where practicable with the animal's owner.

WILDLIFE AND FREE-LIVING ANIMALS

Although the most commonly used animals in screen production are domesticated, a production will sometime require the use (or depiction) of species entirely unfamiliar with domestic settings and basic commands.

'Free-living' animals are defined as animals not routinely under human control, including those that have been captured but are intended for return to the wild within ten days of capture.

- Free-living animals are likely to be distressed by capture. This should be minimised by the use of skilled operators and suitable techniques
- Particular care should be taken to limit disruption to the animal's social structure and breeding activity

- Although the use of traps is discouraged, where they are used, they should be checked regularly to minimise stress.
- Trapped animals should be protected from predators, exposure and lack of food and water.

RELEASE OF FREE-LIVING ANIMALS

Generally, free-living animals must be released in the locality of their capture. These animals should be assisted to find their way to 'safe' areas. Professional guidance should be sought on the correct process to prevent a range of unintended consequences, including the possibility that:

- The animal may introduce disease or unsuitable genetic material into a new community; or
- The animal may be stressed by or cause stress to a new community.

Animals should not be released unless they can move freely and unaided and the area they are entering is as free as possible from potential hazard and injury. Prior to their release, animals should be handled quietly and firmly.

WILDLIFE

In most Australian locations, only wildlife held under a Wildlife Demonstrator, Wildlife Displayer or Wildlife Taxidermist Licence can be used in commercial filming.

In Victoria, for example:

- It is unlawful to use wildlife in commercial films without first obtaining written authorisation from the Secretary. A commercial film is defined under the Wildlife Regulations as including, but not limited to, commercial films, theatrical productions, television productions and advertisements.
- Permission to film wildlife held under licence will only be granted if the relevant authority can be reasonably satisfied that:
    - wildlife will not be endangered, killed, stressed, or abused either intentionally or inadvertently by proposed activities;
    - wildlife that is sick, injured, diseased or stressed or not self-sufficient cannot be used for filming; and
    - the proposed production does not portray or create an impression that the abuse or misuse of wildlife is acceptable or desirable.
- Any licence holder seeking permission to use/provide wildlife in a production that proposes to intentionally kill, injure, stress or abuse wildlife for entertainment purposes or creates the impression that abuse, or misuse of wildlife is desirable will be refused.
- The use of wildlife that is deemed not be to be self-sufficient under the Wildlife Regulations 2013 will not be approved for filming. This includes:
    - mammals that are not fully weaned;
    - if a flighted bird, is too young to fly or if a flightless bird, is less than 4 weeks old;
    - any wildlife that is obviously diseased, sick, or injured; and
    - an egg.

VENOMOUS ANIMALS

- Only specialist reptile handlers may handle these species.
- The use of venomous reptiles should appear on the call sheet, together with the location of the appropriate antidote, name of doctor and nearest medical personnel or facility.
- Venomous reptiles should be milked as close as possible prior to any scenes where contact with humans or other animals is possible.
- No cast or crew should ever be placed in harm’s way. Wherever possible, use editing or other cinematic devices to simulate or suggest risk.

HORSES

- An experienced horse-master should be engaged for scenes involving equine animals.
- Pre-production time must be allowed for any actor required to ride or drive a horse.
- The route to be ridden or driven by an actor (or stunt double) should be surveyed by the safety supervisor or other appropriate person who should walk and ride it first and advise the actor after consultation with the animal master.
- An experienced pick-up rider nominated after consultation between the stunt coordinator and animal supervisor must be in attendance at all times when horses are working on set.
- All harnesses, saddlery and other animal-related accessories must be in good condition and of a high safety standard.
- Horse falls should not be achieved by tripwires or pitfalls.
- No-one shall ride horses “off camera” except for those persons designated to do so by the Animal Supervisor.
- Horse-drawn vehicles shall only be used when operated by, or under the instruction of, a qualified driver whose decisions regarding the capabilities or limitations of the rig will be final.
- When persons are required to ride horses, consideration should be given to the use of PPE such as toe stoppers to minimise the risk of riders being hooked up in stirrup irons and dragged.
- Under no circumstances will spurs be worn by any actor or extra without prior approval of the Animal Handler and where relevant the Stunt Coordinator.
- All hitch rails shall be fastened in the ground so that the tugging of a frightened horse cannot pull it loose.
- On a stage, hitch rails shall be bolted or fastened in a rigid manner. Scenery and props shall be secured together with items such as ladders that can be easily tipped over.

ANIMALS AND STUNTS / SPECIAL EFFECTS

- Only extremely well-trained animals should be used in stunts or special effects (SFX) or stunt/SFX sequences. The animal supervisor, stunt/SFX coordinator and safety supervisor must have sufficient pre-production time with key stunt and SFX personnel.
- The Animal Handler and wrangling personnel shall be given adequate notice prior to shots being fired or the detonation of explosives so that appropriate strategies can be implemented.
- When animals are on set, the animal supervisor should have direct liaison with the first AD and the stunt and/or special effects coordinators.
- Free running animals such as cattle and brumbies can present special hazards. Sequences involving them should be carefully planned in regard to camera and cast positions and there should be sufficient experienced and skilful handlers to ensure safety.
- Animals should be preconditioned to fire and their coats and tails protected from it with fireproofing solutions or water.
- Squibs (i.e., fireworks) should never be close enough to animals to frighten them. Action and breakaway props should be of safe materials such as sugar glass, balsawood, rubber etc.
- The animal supervisor and safety supervisor should satisfy themselves concerning the precautions taken to protect the safety of people applying make-up or prosthetics to animals, and to the animals themselves.
- The precautions taken for the movement of actors during SFX sequences should apply equally when animals are on set.
- Horse-drawn vehicles may only be used when operated by, or under the instruction of, a qualified driver whose decisions regarding the capabilities or limitations of the rig is final.
- A receipt of purchase should be held by the production office for any dead animals acquired for use in scenes. Such animals should not have been killed expressly for the production.

FIREARMS AND ANIMALS

- Live ammunition is allowed on set only when animals are being used.
- The Producer should be advised of the whereabouts of the necessary firearm and should ensure that the firearm is kept disabled in a secure position and that any and all ammunition is stored separately when not in use.
- The use of weapons and live ammunition is only permitted where: There is a threat to the life or serious injury of a person on set.
- Live ammunition should be stored in a locked metal box to which only the licensed wrangler/armourer has access.
- Firearms must be kept completely away from prop weapons and locked away off set when not in use.
- Ammunition must be of a type and calibre that is not interchangeable with prop weapons.

8. BOATS / MARITIME

GOLDEN RULES

- Understanding local conditions and risks is key to safe production.
- Boats/vessels and their operators require licences according to vessel type.
- Safety Equipment must be well maintained and ready to use.
- Conduct a Risk Assessment.
- Ensure you have appropriate means of ship-to-shore communications.
- Filming for commercial productions normally requires written permission from land *and* water-use authorities.

PCBU

Producers should ensure, so far as is *REASONABLY PRACTICABLE*, that persons working with and for them are not exposed to risks to their health and safety. Where risks cannot be eliminated, control measures must be implemented. Safety Supervisors (or Marine Safety Supervisors), where appointed, will also be responsible for safety.

You should plan water-based production activities with the Safety Supervisor, or the person clearly nominated to oversee safety arrangements. The details of any plan should cover preparation, execution and above all, the safety procedures you have in place to manage risk.

RISK ASSESSMENT AND CONTROL MEASURES

A risk assessment should be conducted for all production work in or in the near vicinity of waterways. The key areas of review will be the type and competency of vessel (where applicable), the conditions in which production will occur and safety procedures for relevant production personnel.

ASSESS PRODUCTION ENVIRONMENT

- What type of marine environment are you planning to film in? (e.g., open water, artificial lake, bay, surf beach). Each environment carries risks, including the possibility of submerged objects.
- Local knowledge of prevailing conditions such as tides, currents, rips, winds, and the presence of marine life such as sea-lice, stinging jellyfish (including bluebottles) and aggressive marine life must be factored into your production planning.
- Check the weather before you go out, including wind speeds at http://www.bom.gov.au/marine/.
- Register for Maritime Alerts in your state or territory of production. When filming at sea, the nearest coast watch station should be advised of the intended destination and estimated time of arrival.
- Any hazardous objects should either be removed from the water or clearly marked.

VESSEL SAFETY

- Check your activities fit within limitations/ restrictions of the boat. Some boats are restricted to daytime usage only or by the distance they can travel and operate from shore; review the boat certification and operating limits.
- Is your safety equipment present and sufficient? Life vests – *one for each person*, ropes, marine radio, flares (as appropriate).
- Check someone on the boat holds a radio operator's certificate when working at sea, and that suitable communications are available.
- Agree a plan for emergencies (i.e., man overboard, engine break down, medical rescue) and arrange for the Skipper to provide a boat safety briefing including these arrangements.
- Pre-plan routes, discuss planned activity with boat skipper / owner.
- Navigation lights, buoys or other maritime signs should never be covered or tampered with in any way.
- Are there adequate first aid supplies?
- What water and fuel supplies do you need? All boats operating in open water shall carry a minimum of two litres of fresh drinking water for each person on board.
- Zero alcohol levels for all on board.

PERSONNEL SAFETY

- The Safety Supervisor and Medical Personnel should monitor the cast and crew for drowsiness, the most common side effect of medication taken to prevent motion sickness.
- Anyone affected by drowsiness-inducing medication should not be permitted to control the boat.
- Always wear properly fitted life jackets where there is a risk of entering / falling into water.
- Whenever cast and/or crew are working in water with or near boats, the boats should be fitted with propeller guards.
- Use spotters to help monitor life and equipment.
- Safety harnesses should be provided for all cast and crew where filming is taking place on board yachts or vessel stability is in question.
- When filming on yachts, the Safety Supervisor, with the skipper, should ensure that correct procedures are demonstrated to all cast and crew and followed during tacking, jibing and other manoeuvres.
- When filming in fast moving rivers and currents, downstream safety equipment such as ropes and nets should be available together with experienced personnel in rescue boats.
- Reflective patches should be attached to clothing (for identification of persons in water) for all personnel, other than cast where patches cannot be incorporated within their costume/s in which event other hazard controls should be implemented.
- Rubber soled footwear should be worn wherever possible to prevent slipping, injury to toes, soles of feet and sunburnt feet.
- Avoid boat to boat transfers, but where this isn't possible ensure: sea conditions are operable for transfer; life jackets worn; a look out is provided and all on board are aware of man overboard procedures; and supervised by an experienced skipper.

SUN PROTECTION

- Working on water adds to the risk of over-exposure to the sun and to dehydration.
- Suitable protective clothing, sunscreen and non-sugar drinks should be available.

CHILDREN

- The number of supervisors/spotters for children shall be increased near water in accordance with the recommendations of the Safety Supervisor (or equivalent), having regard to the numbers of children, their age, swimming ability, confidence in/on/near water, time of year and all other relevant factors including state and territory legislation, regulations, and codes of practice.

POLLUTION AND GARBAGE DISPOSAL

- Polluting waterways is an offence and can also cause safety hazards.
- Paints, thinners, repellents, gasoline, oils, prop objects and other production effects should be kept away from water and removed from location/s on completion.
- Appropriate chemical toilets should be installed on boats as practical and appropriate. They should be correctly and hygienically maintained at all times.

LICENSES AND PERMITS

Waterways management depends on the location and type of waterway. The three main authorities will be:

- National parks or marine park authority;
- Local council; and
- State waterway authorities in the case of major and high-traffic waterways.

You must contact the authority in charge of waterways and immediately adjacent lands. The rule of thumb is if you are undertaking a commercial production activity or one where the scale of equipment to be used is outside the scope of what a recreational photographer would ordinarily use, you will require a permit or permission.

It is also best practice to advise local marine safety organisations of filming plans, locations, and estimated travel times. These organisations are specially attuned to local risks and rescue procedures in the event of accident or misadventure.

You should also be aware of the presence of vulnerable and/or protected marine life, such as migrating whales. These species are increasingly subject to protocols and laws about keeping a safe distance. This information can be obtained from state and territory wildlife preservation authorities.

BOAT LICENSES

States and territories regulate vessel registration and licensing to operate watercraft. Age and vessel power limits differ across jurisdictions. For the purposes of this section, it is assumed that the person in charge of a vessel is a properly licensed adult, save only where a script calls for a vessel to be piloted by a child, in which case alternate supervision arrangements are required.

Of particular types of watercraft:

- Personal watercraft (e.g., jet ski) generally require a license throughout Australia;
- Smaller powered vessels require recreational boat licenses;
- Larger vessels will require higher degree of competency and/or qualifications;
- Any vessel used for *commercial purposes* may only be operated by qualified personnel; and
- These standards are administered by the Australian Maritime Safety Authority.

VESSEL REGISTRATION

- All boats should be registered, seaworthy and maintained in good working order.
- All boat handlers should be appropriately licensed and have the necessary skills, experience, and knowledge to perform the task/s required in the relevant vessel in a safe manner.
- Boats should always be operated within the terms of their particular license and registration with respect to speed, load and other relevant considerations.
- State and territory legislation applicable to the location should be complied with and, where relevant, made known to all employees, contractors, and sub-contractors.

Do not cut corners by not verifying licence and registration information. Not doing so can place production personnel in peril and invalidate insurance arrangements.

AQUATIC LICENSES

- Aquatic activities which affect the general public's use of navigable waters require an aquatic licence in most Australian States and territories.
- Aquatic licences are for temporary events and must be applied for at least 6 weeks before the event or activity starts – even earlier for more complex events or activities.
- Aquatic license applications generally require an *Aquatic Activity Operational Plan* detailing safety procedures, rescue craft, qualified personnel in attendance, communications procedures, a risk register and a risk management plan acceptable to the approval authority.
- Depending on the scale and timeframe of the production, evidence of appropriate community and stakeholder consultation about the proposed activity will also be required.

9. DIVING

GOLDEN RULES

- Follow the three Ps: *Planning / Preparation / Procedure.*
- Diving work requires certification.
- No untrained or unqualified personnel to take part in any diving work.
- Always use a Dive Supervisor and/or Safety Supervisor.
- Have a Dive Plan that is linked to the production's Safety Risk Assessment.
- Plan for safety divers and spotters.
- Prepare a Rescue Strategy.

PCBU

Producer, Dive Master, Safety Supervisor

Safe Work regulations require a PCBU to eliminate risks in work-related functions. Where these risks cannot reasonably be eliminated, they are to be minimised through control measures. Risks and control measures will be contained in the risk assessment required to be undertaken prior to production activity.

The PCBU must consider the surface conditions at the dive site, including the state of the water (rough seas, unusual tides, or currents), weather, visibility, tide, currents, air and water temperature, other vessels or watercraft and any other local conditions to ensure worker's safety. PCBUs are also responsible for ensuring that appropriate medical and rescue provisions are available in the event of misadventure.

PCBUs must ensure all high-risk diving work is done in accordance with Australian Standard/NZS 2299.1: 2015, including:

- the fitness of the diver;
- the competence of the diver; and
- the conduct of the work.

Important note

There is a specific diving standard for the screen industry: *Australian/New Zealand Standard Occupational diving operations Part 4: Film and photographic diving (First published as AS/NZS 2299.4:2005)*.

This Standard specifies requirements for the personnel, equipment and procedures used in occupational underwater operations associated with the production, for commercial purposes, of feature films, television, natural history visuals, corporate videos, and photographic stills.

This Standard is applicable to all persons involved in the production, including producers, directors, cinematographers, gaffers, and department personnel, set construction personnel, underwater technicians, safety divers, stunt people, actors and stills photographers, including self-employed and freelance operators. This Standard applies to diving in water to depths not exceeding 30m.

ESSENTIALS

The three critical elements of safe and effective diving operations are **Planning, Preparation and Procedure**.

PLANNING

Every dive plan should seek to minimize the degree and duration of the diver's exposure to risk. Matters to consider in formulating a dive plan include:

- The type and duration of the dive work;
- Forecasts of meteorological and ocean logical conditions, e.g., clarity, tides, etc;
- Seabed conditions;
- Visibility at dive site;
- Depth of water and depth to be dived;
- Suitability of workplace and/or vessel/s;
- Hazards of work site above and below water;
- Shipping or vessel movements and measures for flagging and propeller protection; and
- Engagement of personnel familiar with local underwater conditions.

PREPARATION

- Selection of dive equipment.
- Equipment checks.
- Diver selection, credentials verification and job allocation.
- Precautions against cold in and out of the water.
- Diver fitness, physical and psychological.
- Forms of communication.
- Underwater and above water hazards.

PROCEDURES DURING OPERATIONS

- Defining each diver's responsibilities.
- Divers' experience with equipment.
- Supply of clean air for cylinders and hookah.
- Operation and use of equipment underwater.
- Limits of depths and times underwater.
- Descent, ascent, and recovery of divers.
- Diving tables for decompression procedures for both single and repetitive diving.
- Time for which divers are to remain in the vicinity of recompression chambers.
- Maintenance of logbooks.

TYPES OF DIVING WORK

Diving work can be broken down into two major categories: General Diving Work and High-Risk Diving Work.

GENERAL DIVING WORK

General diving work is all work carried out in or under water while breathing compressed gas by a worker that is not performing high risk diving work. It relevantly includes:

- photographic and film making diving;
- recreational diving undertaken by workers;
- minor work in the sea, bay, inlet, or marina for cleaning, inspecting, maintaining, or searching for a vessel or mooring; and
- work that is incidental to the conduct of a business (e.g., an actor working on an underwater film).

HIGH RISK DIVING WORK

High risk diving work is work carried out in or under water while breathing compressed gas that involves one or more of the following:

- construction work;
- testing, maintenance, or repair work of a minor nature carried out in connection with a structure;
- inspection work carried out to determine if the above is necessary (e.g., inspecting a component of a dam to determine if maintenance is required); or
- recovery or salvage of large items of plant or structures for commercial purposes (e.g., salvage of a vessel).

Set construction, repair, and demolition – other than incidental work - will be classified as high-risk diving work.

All high-risk diving work must be carried out in accordance with AS/NZS 2299.1: 2015 Occupational diving operations – Standard operational practice.

DIVE SUPERVISOR

Dive Supervisors should be appointed in writing. They are responsible for organising and monitoring all diving activities for a production. They are also responsible for consulting all persons involved in dive activity about the nature of work and securing agreement of those involved prior to any dive activity.

A Dive Supervisor shall be engaged to supervise all diving work on any production that requires the use of breathing apparatus. The Dive Supervisor shall ensure that:

- The appropriate number of personnel necessary for the safe execution of the underwater sequences are available;
- The diving component of the production is organised appropriately; this includes (but may not be limited to) approving the crewing and competency of all divers including underwater technicians, actors, and models, liaising between Heads of Department and supervising all aspects of the diving component of the filming;
- Ensure the skill levels of any person/s involved with any diving work or associated duties are adequate and, if necessary, determine what additional training will be undertaken by such person/s prior to commencing any form of diving work and/or associated duties; and
- Ensure at least one Safety Diver is assigned to each actor and/or model.

DIVE SUPERVISOR QUALIFICATIONS AND EXPERIENCE

The Dive Supervisor shall have, at a minimum, certification as follows:

- AS 2851.1 (occupational scuba diving) for general production work;
- AS 2815.2 (occupational diving to 30 metres) where construction work occurs on set - or internationally recognised equivalent certification;
- Hold a St John Ambulance First Aid for Divers Certificate, or Dive Medical Technician Certification, or recognised equivalent qualification; and
- Hold qualifications to administer oxygen.

If a production involves set construction, the Dive Supervisor should have, at a minimum, a *commercial* certification such as, AS 2815-2 or AS 2815-3 or an internationally recognised equivalent certification. Such qualifications, however, shall not be mandatory where the production calls only for set decoration or set dressing as that term is generally used and understood in the Screen Production industry.

DIVE PLAN

The person supervising the dive must prepare a dive plan after conducting a risk assessment before the work takes place and give workers instructions about it. The dive plan must be followed and must contain the following:

- the method of conducting the diving work;
- the tasks and duties of each person who is diving;
- the diving equipment being used;
- the breathing gases required;
- the dive procedures;
- the dive times, bottom times, and decompression profiles;
- any hazards relating to the dive and the steps taken to control the risks; and
- emergency procedures.

The Dive Supervisor may cancel or abort filming if in their opinion the weather conditions present an unreasonable risk to safety of persons working on the shoot. Unreasonable risks may be created by, but not necessarily limited to, wind velocity, wind direction, rain, mist, fog, air and water temperature, tide, swell, quality of light and visibility in the water.

The Dive Supervisor will *not* double as, or assume the duties of, a Safety Diver, Stunt Diver, Safety Supervisor and/or Stunt Coordinator.

DIVERS - GENERAL

Workers must be properly trained for diving work. As well as a medical certificate no more than twelve months' old, workers must hold a certificate for general diving work; that includes the competencies specified in AS/NZS 2815:2013 (Training and certification of occupational divers) series relevant to the type of general diving work being conducted.

In addition, workers must be skilled (through training, qualification, and experience) in:

- understanding diving physics;
- using, inspecting, and maintaining diving equipment;
- using decompression tables/dive computers;
- planning dives;
- communicating with other divers, and people on the surface while diving;
- carrying out the proposed type of general diving work; and
- diving physiology, emergency procedures and first aid.

STUNT AND SAFETY DIVERS

Stunt and Safety divers shall have a minimum certification equivalent to a recreational dive supervisor certification as set out in AS 4005.02. They are also required to be certified for oxygen administration and first aid.

SAFETY DIVERS

- Wherever possible, diving work should be performed in pairs.
- Unless a higher diving qualification is specified in the Safety Report or is required by the Dive Supervisor, all Safety Divers shall hold, at a minimum, certification equivalent to a Recreational Rescue Diver.
- All Safety Divers should have an alternate air supply to enable them to assist another person who requires assistance.

UNDERWATER TECHNICIANS

Underwater Technicians include but are not limited to the following personnel:

- Directors, Cinematographers, videographers, camera operators and assistants;
- Gaffer and electricians;
- Art department personnel;
- Set construction personnel; and
- Stills photographers.

Underwater technicians shall hold, at a minimum, certification equivalent to a Recreational Open Water Diver unless a higher level of qualification is required by the Dive Supervisor or specified in the Safety Report.

Underwater technicians shall also have completed no fewer than 50 open water dives and have skills relevant to the tasks to be performed.

In circumstances where the only underwater technician required is the Cinematographer, where no actors of models are required and filming does not involve any circumstances called up under AS 2815 Parts 2 or 3, the dive team, at the sole discretion of the Dive Supervisor, may comprise the cinematographer and the Dive Supervisor providing that a third person is engaged as an above water Safety Observer and at least one form of communication is in operation between the Observer and the two divers.

ACTORS AND MODELS

- Actors and models with no previous diving experience shall, irrespective of the requirements of the production, be trained to a level of diving competency no less than given to tourists in the recreational dive industry (AS/NZS 2299.3).
- All actors and models required to undertake dive training (irrespective of the level) shall do so under the supervision of a suitably qualified instructor.
- The Dive Supervisor shall conduct a dive for the purpose of assessing the competency of all actors and models required to undertake dive duties prior to the commencement of the shoot.
- The Producer shall ensure that sufficient pre-production time is allocated for any competency dive/s to be undertaken to the satisfaction of the Dive Supervisor.
- Where possible, all competency dives shall be undertaken at the site where the shoot is to take place
- No person under the age of sixteen shall perform underwater using breathing apparatus in circumstances that are considered hazardous by the Dive Supervisor.
- If, in the opinion of the Dive Supervisor, an actor, model or other person cannot reach an appropriate standard of competency to perform with diving equipment, the Director and Director of Photography shall consult with the Dive Supervisor to formulate alternative methods of filming. The methods may include, but not necessarily be limited to, increasing the number of safety divers, using alternative equipment, modifying the script and/or using doubles.

THE RIGHT TO NOT PERFORM

- Not everyone can dive, whether due to medical or other reasons. It is inviting serious trouble (and worse) to compel someone to dive when they do not feel comfortable.
- No person shall be required to undertake any task underwater or in connection with the use of breathing apparatus for which they have not been trained or feel they have insufficient skill and experience to undertake in a safe manner.

COMMUNICATION

- Two forms of communication should be in operation at all times.
- In conditions of restricted visibility, the Dive Supervisor shall assess the need to use lifelines, float lines and/or other alternative means of communication.

DIVING EQUIPMENT

- All diving equipment should be operated, serviced, checked, tested, and maintained in accordance with the relevant regulations, codes of practice, Australian Standards. and manufacturer's recommendations.
- All servicing, checking, testing and maintenance should be undertaken by persons who have the necessary qualifications, skills, and experience.
- Diving equipment should be operated only by persons who have the necessary qualifications, skills, and experience
- The Dive Supervisor should take reasonable steps to ensure that all equipment used in connection with diving work is being operated, serviced, checked, tested, and maintained in accordance with the relevant regulations, codes of practice, Australian Standards, and manufacturer's recommendations.
- All persons required to perform with (or otherwise use) diving equipment should be competent to use the equipment.

DIVERS' LOGBOOKS

A dive safety log must be kept for each dive a worker conducts, and each must include:

- the name of the worker who is diving;
- the name/s of anyone else who is diving (whether or not they are employed by you);
- the name of the supervisor;
- the date and location of the dive;

- the time each diver enters and leaves the water;
- the maximum depth of the dive;
- any incident, difficulty, discomfort, or injury that occurs during the dive;
- the dive time if using a dive computer;
- the repetitive dive group and the bottom time/dive time if using a dive table;
- if you get a repetitive factor, include this and the surface interval;
- if you use EANx or mixed gas, you must also supply:
    - the oxygen and/or nitrogen content;
    - the maximum operating depth; and
    - the minimum operating depth of the bottom mix (for mixed gas only);
- the diver's and the supervisor's signature (or unique identifier if the log is electronic) to record everyone's safe return; and
- the names of people on the vessel, both before and after the dive (if diving from a boat).

FIRST AID AND EMERGENCIES

The Dive Supervisor shall, having regard to potential risk factors and other relevant criteria, determine the need to engage a Dive Medical Technician.

- The Producer will, on the recommendation of the Dive Supervisor, engage a suitably qualified Dive Medical Technician for the period of the dive.
- The Dive Supervisor and all Safety Divers shall have a thorough understanding of:
    - Dive planning;
    - Expired air resuscitation (EAR);
    - Cardio-pulmonary resuscitation (CPR); and
    - Oxygen administration.
- The Dive Supervisor and/or Dive Medical Technician shall be responsible for ensuring that first aid, equipment facilities and services are adequate having regard to the diving circumstances and any requirements set out in the Safety Report.
- All first aid equipment, facilities and services deemed necessary should be available at the dive site and remain easily accessible always.
- Oxygen should be available at the dive site and easily accessible at all times.
- Sufficient oxygen should be available to allow for the transport of a diver under oxygen to a chamber where needed.
- Oxygen should be administered by a properly qualified person/s.
- Suitably qualified first aid trained personnel are to be available on the surface at all times and shouldn't have another important role that may take precedence.

RECOMPRESSION CHAMBER LOCATIONS

- Prior to any diving operations being undertaken, availability and operational order of the nearest chambers should be verified.
- Travel time from the dive site to the chamber/s should be in accordance with the Occupational Diving Standard 1992 (as amended).

ON-SITE RECOMPRESSION CHAMBERS

- When diving depths exceed 12 metres, having regard to immersion times and the duration of the filming, consideration shall be given to having a recompression chamber on site.
- When a recompression chamber is required on site, suitably qualified and experienced personnel should be engaged to operate the chamber.

- Production documentation, including daily call sheets, should detail the location of the nearest chamber and its availability.

LIGHTING

see also note on Electrical Work

- When 240-volt power supply is required from a vessel for filming, a three-point mooring should be installed to prevent the vessel from swinging or dragging electrical cables from the filming area.
- Generators should be checked prior to commencement of filming by a licensed electrician for correct earthing to ensure residual current devices (RCDs – safety switches) are tripped in the event of a water leak.
- All 240-volt supplies should have a current "In Test" RCD device fitted.
- A dry area should be allocated in the generator/cabling area of the vessel, pool, or film tank facility.
- When underwater lights are used, the electrician in charge should have direct access to the cut-off switches always.
- Cable runners/wranglers should be engaged when running lighting from a vessel.

10. DRONES

GOLDEN RULES

- Licences and Pilot Certification are required for Drones over 2kg.
- Fly only in fine weather and keep drone in sight at all times.
- You must only fly during the day and you must not fly through cloud or fog.
- Plan the flightpath and be aware of built and natural obstacles.
- Use drones with 'return-to-base' function.
- Avoid locations where drone will become a hazard in the event of failure or loss of control.
- Drones cannot fly within 30 metres from other people.
- Use is prohibited within 5.5km of an airfield if the drone exceeds 250 grams in weight.

PCBU

Producer, Drone Pilot, Safety Supervisor (where applicable)

LAWS AND REGULATIONS

In Australia use of drones is governed by the Civil Aviation Act 1998 (Cth) and related regulations and standards.

For drones 2kg – 150kg, operators are required to hold both a RPA Operator's certificate, and a Remote Pilot's Licence (RePL). Operators should be listed on the CASA register, Producers should ensure that they have been provided with copies of these documents.

Drones under 2kg operate under reduced requirements. Operators do not need to have a RPA or RePL. Operators must provide at least five days online notice of flights, and comply with the relevant rules and regulations.

Use is pre-approved over unpopulated areas, 30m or more distance from any person, up to 120 meters in height, and in 'line of sight' conditions. All other uses must be approved. In particular, use is prohibited within 5.5km of an airfield.

RISK ASSESSMENT

When performing the risk assessment, the relevant PCBU (usually the drone operator) must consider:

- the speed and size of the drone;
- visibility limitations;
- mobility and location of bystanders;
- pilot and controller location and how close they are to bystanders;
- environment, wind, sun, lighting etc; and
- possibility of GPS shadows or turbulence around buildings.

CONTROL MEASURES

Mitigation strategies could include:

- daily risk assessments when using RPLs over multiple days;
- ensuring take-off and landing areas are clear;
- announcements when drone is taking off and landing;
- assistance from safety crew;
- restricting flight times for each drone or pilot;
- using a smaller or lighter drone;
- using a redundant battery system;
- possessing a return to home function;
- using propeller guards or different propellers;
- restricting the drone speed;
- restricting the number of bystanders within 30m of the drone; and
- creating an action plan in case of drone control problems or failure.

GENERAL GUIDELINES

Drones should only be flown during the day in clear conditions. Operators must only fly one drone at a time. Operators must keep their drone within visual line-of sight (VLOS) - close enough to see, maintain orientation and achieve accurate flight and tracking. This means being able to see the aircraft with the operator's own eyes (rather than through camera first-person-view (FPV)) at all times.

Drones should not be flown:

- closer than 30 metres to any other person, building, boats, or buildings;
- operators must not fly over any populous area such as beaches, private backyards, heavily populated parks, or sports ovals when there is a game in progress;
- higher than 120 metres - referenced to a point on the ground immediately below the drone at any time during the flight
- near any prohibited/restricted areas – for example must stay more than 5.5km from controlled aerodromes - one with an operating control tower; or
- over any populated area where, in the event of a loss of control or failure, it may create an unreasonable hazard to the safety of people and property on the ground.

It is crucial to plan out the proposed flight path of the drone and to identify any obstacles. Where possible such obstacles should be removed. Consider and plan for the fact that if the 'return-to-base' function of the drone is activated, it might return in a direct line.

The drone operator may require a designated area with power-supply to recharge and store drones and to which all WHS recommendations regarding electrical equipment will apply.

Operations within a 5.5km radius of an uncontrolled aerodrome or helicopter landing site (for exceptions please refer to CAA Advisory Circular (AC) 101-10) are possible provided that the drone does not operate on:

- the approach and departure path;
- within the movement area; or
- create a hazard to aircraft that may be using those areas.

Pilots holding a valid licence may be able to fly a drone up to 15 metres away from a person, rather than the 30 metres usually allowed, though this does increase safety risks. To fly under the rule, the following conditions must be met:

- drone weighs less than 150kg;
- consent is obtained from each person within 30m of the flight path; and
- drone is not flown closer than 15m.

LOCAL AUTHORITIES

When considering applications for filming with remotely piloted aircraft, local councils and public agencies may request documentation confirming that the operator is qualified to operate the aircraft, along with detailed flight route, stakeholder notification and risk management plans.

For the most up to date advice and resources, visit https://www.casa.gov.au/drones/drone-rules