

GUIDELINES FOR  
WATER SAFETY IN

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# HOTELS, MOTELS, CAMPING AND CARAVAN GROUNDS



**Royal Life Saving**  
THE ROYAL LIFE SAVING SOCIETY AUSTRALIA



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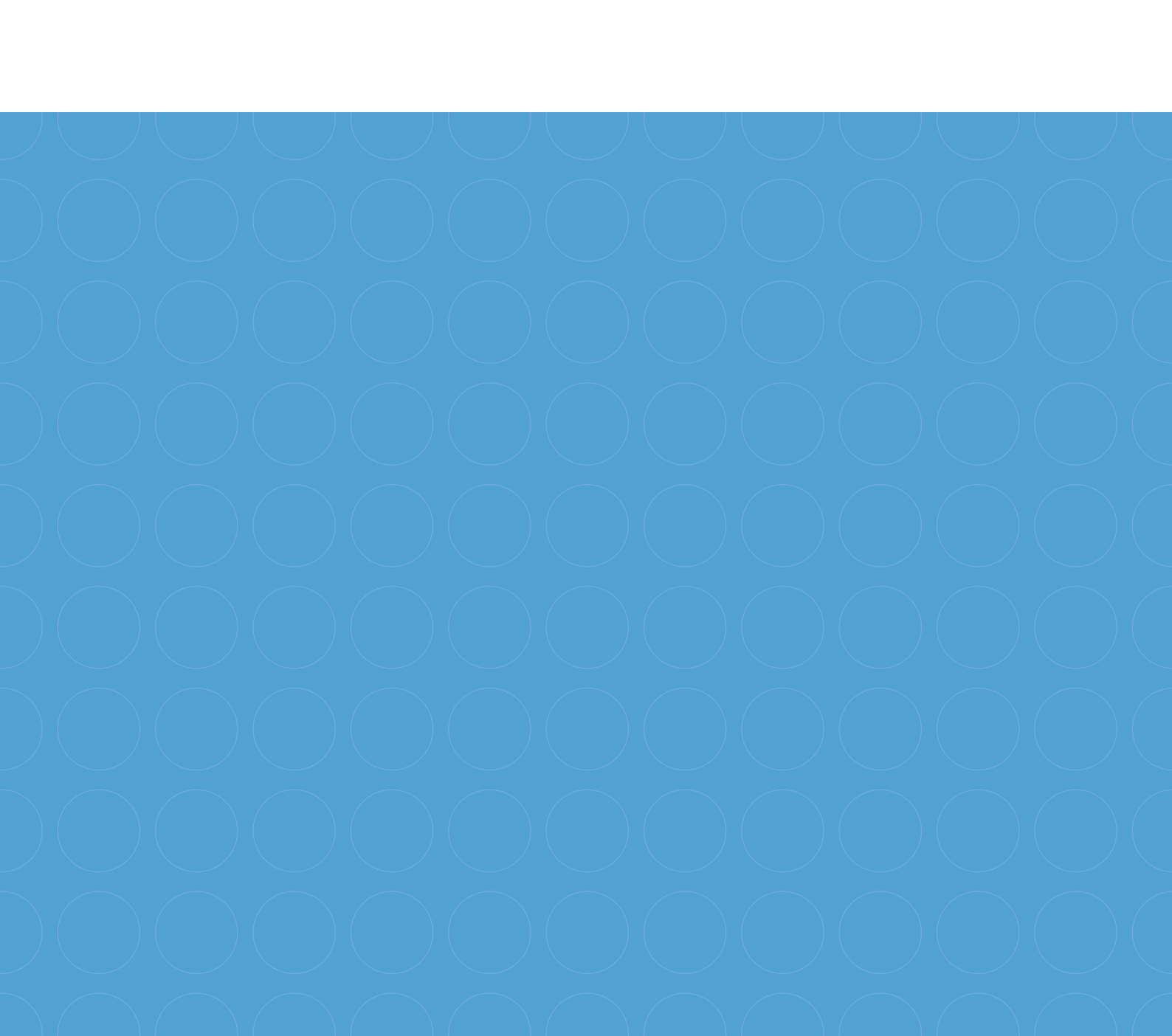
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The very real need for constant supervision of all people using hotel, motel, camping and caravan ground aquatic environments by parents, guardians or where appropriate paid supervisory personnel.

# SECTION : 01

## INTRODUCTION

## BACKGROUND

On December 18 2001, the life of a young 4 year old boy was snatched from his family and friends. The deceased and his family were recreating in and around the main swimming pool at a bushland resort in Victoria, Australia. The young boy had been playing in the children's wading pool with his mask and snorkel, and the seven children of the combined families who were attending the resort.

Around 3.45pm all of the children except the young boy were in the resort spa pool. The deceased was then found near the bottom of the deep end of the main swimming pool. It has been estimated that there were approximately twenty adults and children in the pool area at the time of the accident.

Such a scenario places heavy emphasis behind the very real need for constant supervision of all people using hotel, motel, camping and caravan ground aquatic environments by parents, guardians or where appropriate paid supervisory personnel.

In order to support such a need, the Royal Life Saving Society Australia has produced the Guidelines for Water Safety - Hotel, Motel, Caravan and Camping Grounds. These guidelines offer direction and assistance in the areas of water safety, injury prevention and superior best practice management. The fundamental aspects behind these Guidelines are the implementation of an Emergency Action Plan, Signage, Rescue Equipment and Risk Management Assessment, along with proactive Supervision levels, whether paid or voluntary.

## INTRODUCTION

It is imperative that the reader of these guidelines understands and recognizes the uniqueness of each hotel, motel, camping and caravan ground aquatic setting. This must include an appreciation of the different size of the establishment, nature of the establishment (resort style hotel compared to budget motel or camping ground), different user groups and their expectations of the facility and aquatic activities to be undertaken, and the application of the guidelines to these various settings.

It can not be stressed enough that supervision should be applied to the aquatic setting at all times, and all users of the Hotel, Motel, Camping or Caravan aquatic setting are recommended to have a supervisor with them at all times, however this at the discretion of the user. It is also recommended that the Hotel, Motel, Camping or Caravan Ground management (or the management of the aquatic facility) should perform a detailed Risk Management Analysis to determine the relevance and practicality of implementing paid supervisory personnel to its aquatic environment.

These guidelines form a part of the suite of water safety guidelines published by the RLSSA. Other guidelines include the Guidelines for Safe Pool Operation (GSPO), Australia's leading publication on safety practices in aquatics and leisure facility operations. These guidelines are compatible with the health and safety management programs of State occupational health and safety authorities.

Additionally the RLSSA provide the Guidelines for Water Safety in Urban Water Developments. These guidelines are relevant for purpose-built water environments, near or around areas which the general public may frequent, and are inclusive of residential developments in both urban and rural settings, commercial developments such as shopping precincts and hospitality venues, residential and commercial developments and public spaces, e.g. parkland and reserves. Hotel, Motel, Camping and Caravan Grounds which include these types of open water developments as part of their property should refer to the Guidelines for Water Safety in Urban Water Developments information and guidelines for the management of the risk these environments impose, and the responsibilities of management to control such risks.

The RLSSA have also developed the Guidelines for Water Safety - Inland Water Bodies, relevant for inland water environments such as lakes, rivers, farmland dams and water supplies, and irrigation systems, which may or may not be intended for swimming / human interaction. These guidelines have been developed to advise councils, management, farmer's and their families and community groups who work and interact within these types of environments about potential risks associated with these environments, and how they can be enjoyed safely.

The Aquatic and Recreational Signage Style Manual has been designed to assist local councils, government departments, committees of management, responsible bodies and landowners throughout Australia, to have access to a full and easily accessible set of water safety signs and symbols for pools, beaches and inland waterways.

Along with these Guidelines the RLSSA also provides the Guidelines for Water Safety - Body Corporate Swimming Pools and the Guidelines for Water Safety - Commercial Swim School & School Pools designed to aid the expansion, management and advancement of the respective user groups within these aquatic environments.

## SCOPE OF THE GUIDELINES

The Guidelines for Water Safety - Hotel, Motel, Camping and Caravan Grounds are relevant for any swimming pool and spa facility located within a hotel, motel camping or caravan ground environment.

These guidelines are directed for:

- Swimming pool and facility operators.
- Maintenance personnel.
- Managerial personnel.
- Industry bodies.
- Staff.

These guidelines have been created to hold relevant advice for designers, developers, government authorities, tourism industry personnel, governing bodies and hotel, motel, camping and caravan ground staff and cliental. These guidelines should be integral to the design, operation and long-term success of swimming pools and spas within the hotel, motel, camping and caravan ground environment. These guidelines offer pool operators significant and detailed information on the management of aquatic facilities, while providing a secure, user-friendly aquatic environment for all hotel, motel, camping and caravan ground guests.

The safety considerations tabled within this document do not encompass residential swimming pools and spas that are covered by existing state regulations and safety programs. Please refer to the Building Commission and the Royal Life Saving Society for further information.

## RETROSPECTIVITY

In regard to the implementation of these guidelines it must be recognised that some existing hotel, motel, camping and caravan ground swimming pool and spa facilities may not meet the best practice recommendations detailed in these guidelines in relation to facility design. Where practicable, it is recommended that when these existing facilities are redeveloped, renovated, or undergo major maintenance works, the new design and works should adhere to these guidelines.

## REFERENCE COMMITTEE

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SECTION : 02

GENERAL OPERATIONS

## GUIDELINE HMC1.

1. TITLE GENERAL SUPERVISION
2. PURPOSE To establish minimum guidelines of the supervision of bathers at hotels, motels, camping and caravan ground swimming pools.
3. GUIDELINES
  - 3.1 Qualifications of Supervisory Personnel
    - 3.1.1 It is recommended that the hotel, motel, camping or caravan ground management undertake a risk management analysis in regard to the supervisory requirements for its aquatic facilities. This assessment should include the following areas:
      - i. Size of pool.
      - ii. Shape of pool.
      - iii. Lines of sight in and around the pool.
      - iv. Number of patrons using pool.
      - v. Swimming ability of patrons using pools.
      - vi. Behaviour of patrons using pools.  
(Refer to Appendix B Risk Management)
    - 3.1.2 It is recommended that any person required to operate in a paid supervisory role should be trained and qualified to a minimum level of a RLSSA Bronze Medallion. This qualification allows the personnel to develop the knowledge, judgment, techniques and physical ability required to carry out safe water rescues.
    - 3.1.3 It is recommended that all persons operating in a paid supervisory role should hold a current cardio pulmonary resuscitation (CPR) qualification and a First Aid qualification from a recognized provider such as RLSSA.
  - 3.2 Supervision
    - 3.2.1 The responsible supervisory person (paid or voluntary) should be of the minimum age of 16 years old, and must maintain concentrated observation of the pool and pool users in order to anticipate problems and to identify and respond quickly to any emergency. Management may increase this age depending on their circumstances in conjunction with a Risk Management Assessment.
    - 3.2.2 Pools and immediate surrounds must be supervised to ensure that:
      - i. There is no running.
      - ii. There is no pushing.
      - iii. There is no diving or jumping into shallow water.
      - iv. There is no abusive or offensive behaviour.
  - 3.3 Emergency Action Plan (EAP)
    - 3.3.1 An emergency support system should be in place with an effective means of communication, which may include:
      - i. An emergency panic button that can be used to set off an alarm.
      - ii. A direct telephone link to an appropriate emergency service e.g. Ambulance or Police or the hotel reception.
    - 3.3.2 It is essential that the following factors are provided:
      - i. An emergency plan or procedure that relates to the specific pool.
      - ii. An emergency support system should be on display and known to users.
      - iii. Information on First Aid, Cardio Pulmonary Resuscitation, and Rescue Breathing should be clearly displayed at the pool.
      - iv. Advisory signs relating to appropriate behaviour should be clearly visible to users.  
(Refer Section 3.3 Below)  
(Refer Guideline HMC3 Emergency Action Plan)

- 3.3.3 Users should be made familiar with emergency procedures.
- 3.3.4 Safety equipment should be available on site, e.g. rope, reach pole, resuscitation pocket mask. (Refer Guideline HMC4 Rescue Equipment and Guideline HMC6 Content of First Aid Kit and/or Room)
- 3.4 Signage  
Signage outlining appropriate behaviour and other relevant information should be in simple, positive, easily understood language and using symbols where possible. (Refer Life Saving Victoria, (2004). Aquatic and Recreational Signage Style Guide. Second Edition, January 2004)
- 3.5 Line of Sight  
Paid or volunteer supervisors should be in a position to maintain supervision of the water at all times. It is recognized that supervisors need to be mobile and a clear line of sight is a significant requirement.
- 3.6 Play equipment  
Play equipment, e.g. small inflatables and floating mats and rafts may require an increased level of supervision from parents, guardians or paid lifeguards (where applicable).

#### 4. REFERENCES

Guideline HMC3 Emergency Action Plan.

Guideline HMC4 Rescue Equipment.

Guideline HMC6 Content of First Aid Kit and Room.

Guideline HMC18 Safe Use of Floating Play Equipment.

Appendix B Risk Management.

Life Saving Victoria, (2006). Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

[www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4](http://www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4)

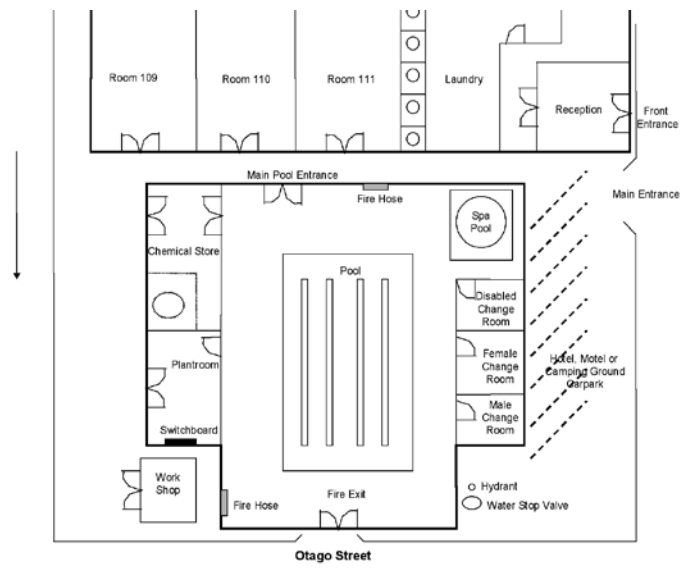
## GUIDELINE HMC2.

1. TITLE                   AQUATIC RISK MANAGEMENT
2. PURPOSE                To provide guidance for the successful application of risk management principles in the safe operation of aquatic facilities.
3. DEFINITION            Risk Management is the process of identifying, assessing and controlling risks to people, to an organisation, or to an asset. Formalised Risk Management is becoming an essential tool in the aquatics industry and is a requirement under various governmental legislation such as the Victorian Dangerous Goods (Storage and Handling) Regulations 2000 and the National Occupational Health and Safety Commission – National Standard – Storage and Handling of Workplace Dangerous Goods.
4. GUIDELINES
  - 4.1                        It is recommended that the hotel, motel, camping or caravan ground management undergo a structured Risk Management analysis of their facility usage in relation to procedures and policies for all Supervision Requirements of patrons in the facility. (Refer to Appendix B Risk Management and Section 4: Supervision)
  - 4.2                        It is recommended that all aquatic facilities undergo a structured Risk Management analysis of their storage, handling methods and procedures for all Dangerous Goods used or stored on the premises. (Refer to Appendix B Risk Management)
  - 4.3                        It is recommended that all aquatic facilities undergo a structured Risk Management analysis of their storage, handling methods and procedures for all Hazardous Substances used or stored on the premises. (Refer to Appendix B Risk Management)
5. REFERENCES            Appendix B Risk Management.  
  
National Occupational Health and Safety Commission Storage and Handling of Workplace Dangerous Goods.  
  
*Note: The above recommendations are superseded in States and Territories where relevant legislation requires Risk Management analysis.*  
  
*Note: Australian Standard AS/NZS 4360:2004 Risk Management and the Handbook HB436: 2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 are excellent resources for undertaking a risk management analysis for aquatic facility operation.*

## GUIDELINE HMC3.

1. **TITLE**                    **EMERGENCY ACTION PLAN**
2. **PURPOSE**                To establish guidelines on the minimum safety content of an emergency action plan.
3. **DEFINITION**            An emergency action plan (EAP) is a set of documented and well-rehearsed procedures that are initiated on the occurrence of a significant safety incident. An EAP is designed to offer guidance, direction and procedures to allow a swift effective response to an emergency. While there are a variety of definitions behind what constitutes an emergency, for the purpose of this guideline, an emergency is a sudden, unexpected event requiring immediate action due to potential threat to health and safety, the environment, and/or property.
4. **GUIDELINES**
  - 4.1                    The minimum safety content of an emergency action plan should include details on the following:
    - 4.1.1                Routine aquatic emergency procedures:
      - i.    Minor incident.
      - ii.   Overcrowding.
      - iii.   Disorderly Behaviour.
      - iv.   Lack of water clarity.
      - v.    Chemical irregularities.
    - 4.1.2                Major Incidents:  
Incidents considered to be life threatening for any and all individuals including, but not limited to:
      - i.    Suspected drowning.
      - ii.   Suspected spinal injury.
      - iii.   Cardiac incident.
      - iv.   Chemical spill or leak.
    - 4.1.3                Response:
      - i.    Minor incident.
      - ii.   Major incident.
      - iii.   Teamwork.
      - iv.   Communication.
      - v.    Equipment.
      - vi.   First Aid.
      - vii.   Reporting.
    - 4.1.4                Rescue and First Aid:
      - i.    List of Equipment.
      - ii.   Location of Equipment.
    - 4.1.5                Emergency Services: (Refer Section 4.2 Plan of the Premises below)
      - i.    List of relevant emergency service phone numbers for the various authorities and responsible persons to be notified in the event of an emergency.
      - ii.   Contact details for each service.
      - iii.   The address of the premises.
      - iv.   A plan of the premises.
      - v.    Call out procedure.
    - 4.1.6                Evacuation:
      - i.    Fire.
      - ii.   Chemical spill or leak.
      - iii.   Bomb threat.
      - iv.   Power failure (Blackout).
      - v.    Structural failure.
      - vi.   Use of outdoor pools during electrical storms, e.g. Lightning.  
(Refer HMC19 Precautions during Thunderstorms)

- 4.1.7 Critical Incident Stress (CIS) Debriefing/ Post Trauma Counselling:
  - i. Procedures for initiation of CIS debriefing.
  - ii. Contact name and telephone number for at least 2 people who may be contacted in the event of an incident.
- 4.1.8 Practising Emergency Procedures:
  - i. Frequency.
  - ii. Training.
  - iii. Simulation.
  - iv. Public alert.
- 4.2 Plan of the Premises
- 4.2.1 Due to the varied nature of body corporate swimming pool and spa locations the purpose of the plan of the premises is to identify the location of the swimming pool or spa to aid emergency services personnel in locating the area in question.
- 4.2.2 The following information may be relevant:
  - i. Main entrance and other entry points to the premises.
  - ii. The location of all buildings, amenities, structures and internal roadways on the premises and their designed uses.
  - iii. Areas of public access adjacent to the site and parking (if any).
  - iv. Public street names adjacent to the premises and evacuation routes.
- 4.2.3 Figure HMC3 Sample Plan of Premises



- 4.3 The Emergency Action Plan should be practiced at least annually so that the relevant pool user groups are fully conversant with the plan and the equipment. Results of the practice of the Emergency Action Plan should be analysed by the Body Corporate with a view to continuous improvement. (Refer AS3745-2002: Emergency control organization and procedures for buildings, structures and workplaces)
- 4.4 The Emergency Action Plan should be made readily available to all staff and guests of the hotel, motel, camping or caravan ground, and any other persons who use the pool. This may be achieved by providing all guests with a copy upon occupancy.

5. REFERENCES

Guideline HMC19 Precautions During Thunderstorms (Lightning).  
 Appendix B Risk Management. AS 3745-2002: Emergency control organisation and procedures for buildings, structures and workplaces.

## GUIDELINE HMC4.

### 1. TITLE RESCUE EQUIPMENT

2. PURPOSE To provide advice regarding the nature of rescue equipment to be available at a hotel, motel, camping or caravan ground swimming pool or spa.

### 3. GUIDELINES

3.1 All swimming pools and spas should provide rescue equipment for use in an emergency, based upon a risk management assessment relative to the size, and user group demands of the facility. (Refer Appendix B Risk Management)

3.2 The minimum recommended equipment provided should be:

- i. 2 x Reach poles.
- ii. 2 x Throw ropes or throw bags.
- iii. 2 x Floatation Devices (kickboards, rescue tubes, etc).

3.2.1 Additional equipment needs should be determined following a thorough Risk Assessment process (see Appendix B: Risk Management), and may include some or all of the following:

- i. Lifejackets.
- ii. Spine board.
- iii. Self contained breathing apparatus when using chlorine gas or ozone generators.
- iv. Oxygen Resuscitation Equipment.

(Refer Guideline HMC2 Aquatic Risk Management)

3.4 Where there is a combination of indoor and outdoor pool and spa locations it is recommended that rescue equipment be made readily available in each location.

3.5 Rescue equipment that is provided should be in line with the qualification of supervisory staff where provided. (Refer GuidelineHMC1 General Supervision)

3.6 Where possible rescue equipment should be utilised by people trained in its use. (This should not preclude the supply of basic rescue equipment such as a reach pole that can be utilized by people with no formal training).

4. REFERENCES Guideline HMC1 General Supervision.

Guideline HMC2 Aquatic Risk Management.

Appendix B Risk Management.

## GUIDELINE HMC5.

1. TITLE                    **POOL COVERS**
2. PURPOSE                To provide advice and guidance on the use of pool and spa covers for both indoor and outdoor environments.
3. GUIDELINES
  - 3.1                        Pool and spa covers should be fitted with fastening devices allowing longitudinal fixing to reduce the chance of being dislodged in strong winds.
  - 3.2                        At all times recreational swimming is not permitted when pool covers have been partially removed. Appropriate signage displaying this message should be displayed around the pool concourse.  
(Refer Guideline HMC14 Advisory Signs).
  - 3.3                        Pool covers should never be used as a substitute for appropriate and adequate isolation fencing.
  - 3.4                        Installation and removal of pool and spa covers should be carried out in accordance with manufacturers operating instructions and relevant occupational health and safety guidelines.
  - 3.5
    - i. Pool and spa covers should be stored and maintained in accordance with the manufacturers recommendations.
    - ii. Pool and spa covers and storage frames should not be permanently or temporarily located in a manner that inhibits supervisory sightlines or creates a hazard to pool or spa patrons and/or supervisory persons.
4. REFERENCES            Guideline HMC 14 Advisory Signs.



## GUIDELINE HMC6.

### 1. TITLE                      CONTENT OF FIRST AID KIT AND/OR ROOM

2. PURPOSE                      To establish a list of contents for the first aid kit and first aid room (where provided) for body corporate swimming pools and spas.

3. DEFINITION                      The following Guidelines are recommended in reference to the relevant State and Territory WorkCover First Aid in the Workplace legislation.

ACT:                      ACT WorkCover Authority. (1994). ACT First Aid in the Workplace: Code of Practice. WorkCover, Australia Capital Territory.

NSW:                      New South Wales WorkCover Authority. (2001). WorkCover NSW Health and Safety Guide: Guide 2001. First Aid in the Workplace. WorkCover, New South Wales.

NT:                      NT WorkSafe (2003). A Guide to First Aid in the Workplace. WorkSafe, Northern Territory.

QLD:                      Queensland Government Department of Industrial Relations. (2004). First Aid Advisory Standard 2004.

SA:                      SAFEWORk SA. (1991). South Australian Government Code of Practice for Occupational Health and First Aid in the Workplace.

TAS:                      Workplace Standards Tasmania. (2004). A Guide to First Aid in the Workplace. WorkCover Tasmania.

VIC:                      Victorian WorkCover Authority. (1995). Code of Practice: First Aid in the Workplace. Melbourne: WorkCover, Victoria.

WA:                      WorkSafe Western Australia Commission. (2002). Codes of Practice: First Aid Facilities and Services, Workplace Amenities and Facilities, Personal Protective Clothing and Equipment.

The following guidelines should be implemented in conjunction with a Risk Management Assessment performed by the facility management to determine the relevance of installing or implementing a first aid room relevant to the user groups and their expectations of the facility and the aquatic environment provided.  
(Refer Appendix B Risk Management)

### 4. GUIDELINES

4.1                      First Aid Kit (Container)

4.1.1                      Nature of the First Aid Kit

- i.    The Kit should be in a solid, sturdy and dust-proof container.
- ii.   The Kit should be large enough to adequately house the contents of the Kit.

4.1.2                      The Kit should have a white cross on a green background prominently displayed on the outside.

4.1.3                      The Kit should not be locked.

4.1.4                      The Kit should be of a portable nature.

4.1.5                      The facility operator should consider the appropriate location of the first aid kit. The location should be clearly identifiable (see Section 3.2.2 above) and accessible to any hotel, motel, camping or caravan ground employees and/or supervisory individuals. Employees should be advised of the location of the first aid kit during any induction process.

4.2                      First Aid Kit – Contents

- 4.2.1 First Aid Rooms should have a First Aid Kit with the following contents:
- i. Emergency services telephone numbers and addresses.
  - ii. Name and telephone number of workplace first aiders.
  - iii. Basic First Aid Notes.
  - iv. Triangular Bandages.
  - v. Sterile Eye Pads.
  - vi. Safety Pins.
  - vii. Adhesive Tape.
  - viii. Sterile coverings for serious wounds.
  - ix. Rubber thread or Crepe Bandage.
  - x. Scissors.
  - xi. Disposable latex gloves.
  - xii. Small sterile un-medicated wound dressing.
  - xiii. Medium sterile un-medicated wound dressing.
  - xiv. Large sterile un-medicated wound dressing.
  - xiv. Individually wrapped sterile adhesive dressing.

These items are considered the minimum requirements for a basic first aid kit.

- 4.2.2 It is recommended that the hotel, motel, camping or caravan ground staff ensure that the first aid kit(s) are maintained in proper condition and the expiry dates and stock levels of contents are replenished on a regular basis.

- 4.3 Fittings and Equipment  
Any room used as a First Aid Room should provide the following:
- i. Blankets and pillows.
  - ii. Two chairs.
  - iii. Access to a container for the collection and subsequent disposal of soiled medical items used in first aid.
  - iv. Sharps container for collection of any dangerous sharps, e.g. syringes.
  - v. Hand basin with hot and cold Water.

#### 4.4 Additional Modules

- 4.4.1 It is recommended that facility operators include in their Risk Management process (see Appendix B) the need to include an Eye Module and Burns Module in any first aid kit where chemical liquids or powders are handled in open containers.

- 4.4.2 This module should be kept in a container that clearly identifies its contents and purpose.

#### 4.4.3 Contents

It is recommended that the following contents are included in the Eye Module:

- i. Guidance notes.
- ii. Eye wash (once only use container).
- iii. Sterile eye pads.
- iv. Adhesive tape.

## 5. REFERENCES

Guideline HMC14 Advisory Signs.

Appendix B Risk Management.

ACT WorkCover Authority. (1994). ACT First Aid in the Workplace: Code of Practice. WorkCover, Australia Capital Territory.

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Victorian WorkCover Authority (1995). Code of Practice: First Aid in the Workplace.

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## GUIDELINE HMC7

1. TITLE                    STANDARDS OF TRAINING FOR FIRST AIDERS
2. PURPOSE                To establish minimum standards of training for first aiders at hotels, motels camping and caravan grounds with swimming pools.
3. GUIDELINES
  - 3.1                        Basic Level  
  
All staff expected to provide first aid should hold an appropriate and recognised First Aid Certificate as required by relevant State and Territory legislation.
  - 3.2                        For all lifeguards the minimum standard is The RLSSA Pool Lifeguard Award and Resuscitation Award or equivalent qualification.
  - 3.3                        It is recommended there be a minimum of one First Aid qualified staff member present at all times the swimming pool is available for use, either for clientele or for public entry. Where this is not possible, an Action Plan should be developed in order to enable First Aid Trained staff to be contacted immediately.
  - 3.4                        Currency  
  
All the awards should remain current according to the policy of the accrediting organisation and, where appropriate, The Australian Resuscitation Council (ARC).

## GUIDELINE HMC8

### 1. TITLE TECHNICAL OPERATIONS

2. PURPOSE To establish guidelines on the practices required to ensure safe technical operations by hotel, motel, camping and caravan ground management.

3. DEFINITION The governing legislation for Occupational Health and Safety in each state is the different Occupational Health and Safety Acts. Under the umbrella of the OH & S acts come the regulations, e.g. in Victoria there is the Occupational Health and Safety (Hazardous Substances) Regulations 1999. These regulations are a compulsory minimum for each state. Below the Regulations (in an enforcement sense) come various Codes of Practice. These Codes of Practice are not compulsory but the requirements of the Occupational Health and Safety Acts must be met, in other words, if you are not following a particular Code of Practice, then you have to be able to show how your alternative complies with the Occupational Health and Safety Act in your State or Territory.

It is important to note that this guideline does not replace the applicable Occupational Health and Safety Acts, Regulations and Codes of Practice in any way.

### 4. GUIDELINES

#### 4.1 Dangerous Goods or Hazardous Substances

##### 4.1.1 Dangerous Goods

Dangerous Goods are those substances that may be corrosive, flammable, explosive, toxic oxidising or water reactive. Dangerous Goods are classified as those which will have an immediate physical or chemical affect on property, people or the environment by fire, explosion, corrosion and poisoning.

##### 4.1.2 Hazardous Substances

Hazardous Substances are those substances that may have a health effect on those who deal with them. Hazardous Substances can also be classified as Dangerous Goods.

##### 4.1.3 Legislation

Dangerous Goods and Hazardous Substances are generally covered by different legislation. Dangerous Goods generally come under Dangerous Goods Acts and Regulations and Hazardous Substances generally come under Workplace or Occupational Health and Safety Acts. Please refer to the applicable legislation for Dangerous Goods or for Hazardous Substances in your State or Territory.

##### 4.1.4 Emergency Action Plan

An Emergency Action plan needs to be available to all staff that are dealing with chemicals, and should cover the following:

- i. A list of all dangerous goods and hazardous substances and their locations. It should also contain all the Material Safety Data Sheets (MSDS) documentation. (Refer to Material Safety Data Sheets Australia, [www.msds.com.au](http://www.msds.com.au)) (Refer Section 4.1.5 below)
- ii. A plan to contain any substance spills used on site.
- iii. A plan to clean up spills of each chemical.
- iv. A list of equipment needed to contain chemical spills, including any Personal Protective Equipment (PPE) that may be required. (Refer Section 4.1.8 below) (Refer Guideline HMC3 Emergency Action Plan)

##### 4.1.5 Register and Manifest

A register of Hazardous Substances is required to be held, and if the quantities kept exceed the quantities listed in the various Dangerous Goods Regulations, then a Manifest is also to be prepared and maintained.

The Register needs to be updated when:

- i. A new Hazardous Substance is introduced into the workplace.
- ii. The use of existing Hazardous Substances is discontinued.
- iii. A revised MSDS is provided by the manufacturer, importer or supplier.

For detailed quantities, please refer to the relevant Dangerous Goods (Storage and Handling) Regulations in your State or Territory.

**4.1.6** Placarding  
Placarding refers to the installation of signage at the entrances and at storage areas at the site. The purpose of placarding is to notify emergency services to potential chemical hazards on the site. For further information refer to local State and Territory Dangerous Goods Regulations.

**4.1.7** Separation Distances  
Regulations require that the risk to personnel, property or exposure to other Dangerous Goods is minimised by separation.

Separation can also be explained by some common sense approaches:

- i. Never store different chemicals together.
- ii. Never mix chemicals.
- iii. Always wear the appropriate Personal Protective Equipment.
- iv. Always keep liquids away from dry chemicals.
- v. Always ventilate the storage areas.
- vi. Always check where gases accumulate.
- vii. Always check the MSDS for each chemical.

There are a number of sources for information in regards to Separation Distances. The principle source of information is the Dangerous Goods Regulations of your State or Territory. Some States or Territories also have Codes of Practice that also describe Separation Distances.

In addition, there are also relevant Australian Standards that describe Separation Distances such as:

- i. AS/NZS 2927:2001 The storage and handling of liquefied chlorine gas.
- ii. AS 4326 – 1995 The storage and handling of oxidizing agents.
- iii. AS 1894 – 1997 The storage and handling of non-flammable cryogenic and refrigerated liquids.
- iv. AS 4332 – 2004 The storage and handling of gases in cylinders.
- v. AS 3780 – 1994 The storage and handling of corrosive substances.

**4.1.8** Personal Protective Equipment (PPE)  
Appropriate PPE needs to be provided for each chemical being used (as listed in the MSDS register). It is recommended that staff be trained on how to use the PPE effectively.

PPE signage needs to be displayed, promoting the use of PPE. This signage needs to be compliant with AS 1319 – 1994 Safety Signs for the Occupational Environment.

**4.1.9** Safety Signs  
Australian Standard AS 1319 – 1994 Safety Signs for the Occupational Environment provides examples of safety signs that may be applicable to the hotel, motel, camping and caravan park aquatic environments.

## 5. REFERENCES

Guideline HMC3 Emergency Action Plan.

AS1319 – 1994: Safety Signs for the Occupational Environment.

AS 1894 – 1997 The storage and handling of non-flammable cryogenic and refrigerated liquids.

AS/NZS2927-2001: The storage and handling of liquefied chlorine gas.

AS 4326-1995: The storage and handling of oxidizing agents.

AS 4332-2004: The storage and handling of gases in cylinders.

AS 3780 -1994: The storage and handling of corrosive substances.

Material Safety Data Sheets Australia, [www.msds.com.au](http://www.msds.com.au). Viewed 7th February 2005.

## GUIDELINE HMC9

1. TITLE TRANSFER OF INFORMATION
2. PURPOSE To establish guidelines on the practices required to ensure relevant information is passed on from the aquatic facility constructors to the hotel, motel, camping and caravan ground owners and/or management.
3. GUIDELINES
  - 3.1 Enterprise Guidelines  
It is essential that information relating to the aquatic facility upon handover to the owner or facility management be provided, with specific attention given to the transfer of knowledge on the following topics:
    - i. Maintenance/Cleaning Schedules or Programs.
    - ii. Site Plans.
    - iii. Standard Operating Procedures (SOP's).
    - iv. Routine Machinery Maintenance Schedules.
    - v. Work Notes.
    - vi. Product Labels and Material Safety Data Sheets (MSDS). (Refer Guideline HMC8 Technical Operations)
    - vii. Manufacturers Service Specifications and Operators Manuals.
    - viii. Occupational Health and Safety (OH&S) procedures. (Refer relevant State and Territory WorkCover Authority guidelines)
  - 3.2 Maintenance Schedules
    - i. Any information on the previously or to be performed maintenance activities should be passed over to the owner/management of the aquatic facility. This should include previous/to be performed safety checks.
    - ii. Any specific tools, equipment and machinery required to complete maintenance should be identified by the party handing over the facility.
    - iii. Any safety implications associated with the maintenance activities should be identified and reported to the owner/management upon handover.
  - 3.3 Occupational Health and Safety
    - i. Where practicable any information relating to OH&S hazards, any risks that have been assessed and any suitable controls that have been implemented should be made apparent to the owners/management upon handover, in line with current OH&S legislation.
    - ii. Such information should also include current OH&S site standing in relation to local municipal council regulations.
4. REFERENCES Guideline HMC8 Technical Operations.

## GUIDELINE HMC10.

1. TITLE COMMUNICATION OF GUIDELINES TO FACILITY USER GROUPS
2. PURPOSE To assist in the communication and transfer of knowledge detailed within this document from the Hotel, Motel, Camping & Caravan Ground Management to its aquatic facility user groups.
3. INTRODUCTION Throughout the Guidelines for Water Safety - Hotels, Motels, Camping & Caravan Grounds reference is made to methods of informing the users of the aquatic environment of a number of facts, opportunities and guidelines relevant to safety in and around the Hotel, Motel, Camping & Caravan Grounds aquatic area.
4. GUIDELINES
  - 4.1 The following methods of communication are recommended as excellent avenues to transfer the information suggested within this document to the facility users:
    - i. New User Group induction sessions, meetings, booklets, guides, handouts etc.  
Within these avenues it is recommended that information from the following guidelines be incorporated:
      - Guideline HMC3. Emergency Action Plan
      - Guideline HMC4. Rescue Equipment
      - Guideline HMC1. General Supervision
      - Guideline HMC18. Parental Supervision
      - Guideline HMC19. Safe Use of Floating Play Equipment
      - Guideline HMC20. Precautions During Thunderstorms (Lightning)
      - Guideline HMC21. Precautions During Diving (Recreational Swimming)
      - Guideline HMC22. Alcohol Risk Management
    - ii. Regular and timely tenant reminder emails from the Hotel, Motel, Camping & Caravan Management to regular users, especially around the warmer months of November to March. Within this communication channel it is recommended that information from the following guidelines be incorporated:
      - Guideline HMC4. Rescue Equipment
      - Guideline HMC16. Shade Protection
      - Guideline HMC22. Alcohol Risk Management
    - iii. Information sharing points, such as notice boards or monthly newsletters.
    - iv. Regular user group training sessions such as fire drills, evacuation practices, optional safety lessons etc on such topics as alcohol safety around aquatic environments, supervision training sessions with user groups.
    - v. Adequate and appropriate signage in and around the aquatic environment drawing attention to the many varied safety issues related to unsupervised pool environments.
  - 4.2 Further advice on communication methods including newsletter format samples, Notice Board Posters and Information Posters can be found in Shaw (2005), GB 012-2005 Community Safety in Multi-Unit Dwellings.
5. REFERENCES Guideline HMC3 Emergency Action Plan.  
Guideline HMC4 Rescue Equipment.  
Guideline HMC17 Shade Protection.  
Guideline HMC1 General Supervision.  
Guideline HMC18 Parental Supervision.  
Guideline HMC19 Safe Use of Floating Play Equipment.  
Guideline HMC20 Precautions During Thunderstorms (Lightning).  
Guideline HMC21 Precautions During Diving (Recreational Swimming).  
Guideline HMC22 Alcohol Risk Management.  
Shaw (2005), GB 012-2005 Community Safety in Multi-Uni Dwellings. SAI Global Limited, Sydney.



SECTION : 03

FACILITY DESIGN

## GUIDELINE HMC11.

1. TITLE DESIGN OF POOL TANK
2. PURPOSE To establish safety guidelines for the design of a pool tank.
3. GUIDELINES
  - 3.1 Pool Depth  
Abrupt changes in water depth should be avoided particularly where swimmers can stand.
    - 3.1.1 Changes in gradient of the pool floor should be highlighted with a contrasting colour such as contrast tiles or painted lines.
    - 3.1.2 Gradient for the pool floor should not be steeper than 1:15, particularly in water less than 1.6 metres.
    - 3.1.3 Changes in gradient of the pool floor where the depth is 1.6 metres or greater should be highlighted by appropriate signage.  
(Refer Guideline HMC16 Pool Depth Markings)  
(Refer AS 2416 sign 215).
  - 3.2 Surfaces
    - 3.2.1 All areas where bathers enter or exit the pool or congregate during activities need to have a slip-resistant and non-abrasive surface. These include:
      - i. Steps and ramps.
      - ii. Beach entry.
      - iii. Pool floor at shallow end where bathers can stand.
      - iv. Learner and toddler pools.
    - 3.2.2 All walkable floor surfaces including ramps and steps should have a slip resistant surface conforming to the recommendations of Standards Australia Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".
  - 3.4 Siting of Pools
    - 3.4.1
      - i. Toddlers and learners pools should be situated away from the deep end of a pool.
      - ii. Where this is not possible, effective transparent barriers, and appropriate signage should be provided.
      - iii. These barriers should not interfere with the line of sight for supervision.
    - 3.4.2 Water of 1.2 metre depth or greater should not be situated near main entry points to pool environment, major traffic flow areas or change room entry. Where this is not possible effective barriers, and appropriate signage should be provided.
  - 3.5 Fittings and Fixtures
    - 3.5.1 Any fixture or fitting in the pool wall (e.g. Lane rope anchors) and the pool floor should be fitted flush and have no sharp protruding edges.
    - 3.5.2 Where fittings and fixtures are located in a tiled surface, the tiles should be flush with the fitting and have no sharp and protruding edges.
  - 3.6 Gutters and Wet Deck  
  
Where a wet deck gutter system is used, it should:
    - i. Not allow water to flow on to the pool concourse.
    - ii. The grate must be neat fitting with no gaps between adjoining grate sections and no raised or buckled slats.
    - iii. Curved grating systems should be flush fitting.

### 3.7 Diving Boards and Diving Blocks

- 3.7.1
- i. The dimensions for the design and construction of springboards are clearly shown in the FINA Handbook.
  - ii. Springboards should be provided with a satisfactory slip resistant and non-abrasive surface.
  - iii. Overhead clearance should be a minimum of 5.0m.
  - iv. Springboards should be fitted to the fulcrum to ensure maintenance of a central aspect within the structure.
  - v. Springboards should be provided at least 2.5 metres clear of the pool walls.
  - vi. The springboard should extend over the pool edge into the pool for at least 1.5m.  
Refer Guideline HMC21 Precautions During Diving (Recreational Swimming) for information on depths for diving.

3.7.2 Table BC6 Dimensions for Diving Facilities

FINA DIMENSIONS FOR DIVING		SPRINGBOARD		PLATFORM	
		1 metre	3 metres	1 metre	3 metres
DEPTH OF WATER	Minimum	3.4m	3.7m	3.2m	3.5m
	AT PLUMMET	Preferred	3.5m	3.8m	3.3m

Adapted from FINA Dimensions for Diving Facilities, Part IX Facilities Rules.  
FINA Handbook 2005-2009 Federation Internationale De Natation Constitution and Rules.

#### 4. REFERENCES

Guideline HMC16 Pool Depth Markings.

Guideline HMC21 Precautions During Diving (Recreational Swimming).

Australian Standard AS 2416-2002 Design and Application of Water Safety Signs.

FINA Handbook 2005-2009 Federation Internationale De Natation Constitution and Rules [www.fina.org/rules.html](http://www.fina.org/rules.html).

Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials.

## GUIDELINE HMC12.

1. TITLE DESIGN OF SPA POOLS
2. PURPOSE To establish safety guidelines for the design of the spa pools.
3. DEFINITION Spa pools are heated pools of water, with equipment for creating turbulent water. Spa pools are normally used for passive recreation and relaxation rather than swimming. Spa baths are not discussed in this guide as they are emptied after each use like a conventional bath.
4. GUIDELINES
  - 4.1 The design of spa pool tanks should be consistent with Guideline HMC11 Design of Pool Tank. Additionally, spa inlets, outlets and piping should comply with AS2610.1-1993: Spa Pool-Public Spas and/or AS2610.2 – 1993: Spa Pools-Private Spas.
  - 4.2
    - i. Spa pools should be located where supervision can be undertaken and maintained.
    - ii. Spa pools should be considered in conjunction with the same level of supervision as swimming pools.
  - 4.3
    - i. Indoor spa pools should be provided with adequate ventilation, taking into account high evaporation and condensation rates, in accordance with AS1668.2-2002: The use of ventilation and air-conditioning in buildings - Ventilation design for indoor air contaminant control.
    - ii. Ceilings, walls and pedestrian traffic flow surfaces should be of a moisture impervious finish.
  - 4.4
    - i. The maximum recommended water depth is 1.1m.
    - ii. The maximum recommended seat depth is 600mm from the waterline.
  - 4.5
    - i. Design of steps and ladders should be in accordance with AS2610.1-1993 Spa Pool-Public Spas.
    - ii. Steps and ladders should also comply with Guideline HMC14 Design of pool Access.
    - iii. The location of underwater obstacles such as steps and ladders may not be visible in turbulent water and should be clearly indicated through the use of handrails and signage.
  - 4.6
    - i. An adjustable thermostat may be used to control the temperature of the water. It should have a range not exceeding 40 degrees Celsius.
    - ii. A second thermostat should be provided, which has a manual reset, and which will prevent users from being exposed to temperatures in excess of 45 degrees Celsius.
  - 4.7
    - i. An emergency stop alarm device should be located adjacent to the spa which on activation will stop all circulation (blowers and filtration) in the spa pool.
    - ii. The device should rapidly alert patrons and supervisors to its activation by way of an audible and visual signals, and should be clearly labeled to indicate its purpose.
  - 4.8
    - i. At all times, the water filtration plant should be capable of turning over the volume of the spa pool at least once every 20-30 minutes, depending on local state and territory Health Regulations.
    - ii. Water quality should be maintained within local statutory requirements.
  - 4.9 Air blowers and jets used to create turbulence in the water should have a 'shut down' period every 15 minutes. This is to reduce excessive use of the spa, and to assist in supervising the full spa tank.
  - 4.10 Signage relating to patron usage should comply with AS2610.1-1993 Spa Pools-Public Spas and be consistent with supervision guidelines.
  - 4.11 Drainage
    - i. The spa pool should be fitted with drain(s) to allow the tank to be completely emptied.
    - ii. The drains and filter returns should be fitted with lint traps.

#### 4.12

##### Automatic Shutdown-Entrapment

- i. The filtration plant and equipment should have fitted a pressure-monitoring device which activates an automatic shutdown. The limit of the pressure-monitoring device should be set to avoid injury from entrapment of foreign objects in suction inlets.
- ii. There should also be no residual suction on automatic shutdown.
- iii. Entrapment prevention may be further improved by the use of specially designed inlet covers as detailed in AS. 2610.1 – Spa Pools – Public Spas and AS. 2610.2 - 1993: Spa Pools – Private Spas.

## 5. REFERENCES

Guideline HMC11 Design of Pool Tank.

Guideline HMC14 Design of Pool Access.

Australian Standard AS1668.2-2002: The use of ventilation and air-conditioning in buildings - Ventilation design for indoor air contaminant control.

Australian Standard AS2610.1-1993: Spa Pools-Public Spas.

Australian Standard AS2610.2 – 1993: Spa Pools-Private Spas.

## GUIDELINE HMC13.

1. TITLE DESIGN OF POOL CONCOURSE
2. PURPOSE To establish safety guidelines for the design of the pool concourse.
3. GUIDELINES
  - 3.1 Concourse Width

The concourse is the area from the edge of the water to the wall or fixed seating or barriers.
  - 3.1.1 The recommended concourse width is 3.0 metres or greater particularly in the following areas:
    - i. Entrance to pool.
    - ii. Adjacent to shallow water.
    - iii. Beach entry areas.
    - iv. High traffic and circulation areas.
  - 3.1.2 The recommended minimum width for the concourse should be 2.0 metres. Where the concourse width in an existing facility is less than 2m, interim measures should be taken to maximize the available concourse space such as:
    - i. Preventing equipment and/or patrons belongings being left in these areas.
    - ii. Removal of any planter boxes, rubbish bins, and any other further restriction to concourse width wherever possible.
  - 3.2 Concourse Surface
    - 3.2.1 Height Variations
      - i. Abrupt changes in floor level in the wet concourse areas should be avoided.
      - ii. If steps to changing areas are required, handrails and slip resistant surfaces should be provided.
      - iii. Where there is to be a split-level concourse, and ramps are provided instead of steps, the ramp gradient should not be greater than 1:14. The desirable gradient is 1:15.
      - iv. Slip-resistant surfaces and handrails are recommended.
      - v. Where tiles are used, the tiles must conform to the recommendations of Standards Australia Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".
    - 3.2.2 All walkable floor surfaces including ramps and steps should have a slip resistant surface conforming to the recommendations of Standards Australia Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".
    - 3.2.3 The concourse should be constructed to facilitate drainage or flow of water to the wet deck gutter and prevent pooling of water.
    - 3.2.4 All concourses should be free from lips or raised edges, particularly where surface changes (e.g. tiles to wet deck) unless otherwise clearly identified by contrasting colour or hazard identification markings.
  - 3.3 Supervision Points
    - 3.3.1
      - i. The layout of the water space should allow for supervision with a minimum of staff. Ideally there should be one or two specific vantage points from which all water spaces can be seen.
      - ii. These vantage points should be in direct visual and audible contact with either a reception or administration area of the complex.
    - 3.3.2 Placement of barriers on the pool concourse should not obstruct lines of sight from the main supervision points.
    - 3.3.3 The layout of the pool concourse should enable supervising persons to move around freely without losing visual contact with water areas.

- 3.3.4
- i. Planter boxes and other features on the concourse should have no sharp edges or rough surface textures, nor should they interfere with sight lines for supervision.
  - ii. Such items should not reduce the concourse width, restrict circulation flow or restrict emergency access and egress, or obstruct lines of sight from the main supervision points.

3.4 Seating

- 3.4.1 Where seating is provided on the concourse, the minimum concourse width remaining after allowance for leg room should be 2.0 metres.  
(Refer also Section 3.1 above)

4. REFERENCES

Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials

## GUIDELINE BC14.

1. TITLE DESIGN OF POOL ACCESS
2. PURPOSE To establish guidelines for the safe design of swimming pool entry and exit.
3. GUIDELINES
  - 3.1 Access  
Pool entry/exit steps and handrails above, at or below the surface of the water should not protrude into or over lap swimming lanes where they may present a hazard to swimmers.
  - 3.2 Railing
    - 3.2.1 Handrails should be provided at all entry/exit steps.
    - 3.2.2 The handrails should be designed to prevent entrapment of limbs and should be placed so that they do not present a hazard during aquatic activities such as tumble turns and play.
    - 3.2.3 Barrier rails should be provided to prevent swimmers from jumping from the concourse on to steps or ramps.
    - 3.2.4 Handrails should be provided on both sides of a ramp.
    - 3.2.5 Steps that may be frequented by aged and/or frail persons should be provided with handrails on both sides in accordance with AS 1428.1:2001-General Requirements for Access- New Building Work.
  - 3.3 Steps
    - 3.3.1
      - i. Entry/exit climb outs and steps should be provided on both sides of each end of the pool.
      - ii. For longer (50m) pools these should be provided at the midpoint of each side.
      - iii. Where possible the steps and railings should be recessed / flush with the pool wall.
    - 3.3.2 Vertical (rise) and horizontal (tread) edges of steps should be a contrasting colour to aid entry and exit from the pool.
    - 3.3.3 Steps should have rise and tread conforming to local building regulations where relevant and have slip-resistant and non-abrasive surface finishes. Step treads should have a slip resistance conforming to the recommendations of Australian Standards Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".
    - 3.3.4 For access to learner or toddler pools wider steps with shallow risers (approx. 150mm) are recommended.
    - 3.3.5 Where access is provided via steps, these should enter the pool from the shallowest end of the pool.
  - 3.4 Leisure Pool Access
    - 3.4.1 For irregular shaped leisure pools adequate entry and exit areas should be provided.
    - 3.4.2 Beach entries should be flush with pool concourse or wet deck, and where not flush a contrasting colour band and appropriate signage should be used to warn the public about the change in level.
    - 3.4.3 Beach entry areas should be visually distinguishable from the pool.
  - 3.5 Ramps
    - 3.5.1 Where disabled access is provided via a ramp, the ramp should be constructed at the shallowest end of the pool.
    - 3.5.2 Gradients should be no steeper than 1:15.
4. REFERENCES Australian Standard AS1428.1-2001 - General Requirements for Access- New Building Work. Australian Standards Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".



## GUIDELINE HMC15.

### 1. TITLE ADVISORY SIGNS

2. PURPOSE To provide advice regarding the type and nature of advisory signs for use in swimming pools.

### 3. GUIDELINES

3.1 Standards Australia has developed guidelines for the design and application of water signs. (Refer AS2416-2002: Design and Application of Water Safety Signs and AS 2899.1 - 1986: Public Information Symbol Signs). These signs have been well researched and evaluated and show very high results in terms of recognition and recall and as a result such signs, where applicable, may be used when appropriate.

For further information please refer to Life Saving Victoria, (2006). Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

3.2 The Standards Australia signs that may be applicable are:

- i. Beware of deep water (refer AS2416 sign 216).
- ii. Beware sudden drop off (refer AS2416 sign 215).
- iii. Beware shallow water-do not dive (refer AS2416 sign 213).

3.3 Other signs, which may be applicable to body corporate pools, include:

- i. Slippery when wet.
- ii. Cleaning in progress.
- iii. Pool closed.
- iv. Advisory signage indicating what is allowed and who is allowed access to what area e.g. 'Staff Only' signage on entrance to store/plant rooms.
- v. No lifeguard on duty.
- vi. In case of emergency, use telephone to contact reception staff.
- vii. No Diving sign displayed in depths of water up to 1.8m deep. (Refer Guideline HMC20 Precautions During Diving (Recreational Swimming)).
- viii. No Running.
- ix. All children under the age of 10 must be actively supervised by an adult over the age of 16 at all times.

3.4 Any signs that are not provided for in AS2416-2002: Design and Application of Water Safety Signs (or any revision thereof), should conform to the design, location and legibility advice given in that Standard.

3.5 The colour and manufacture of signs should conform to the co-ordinates specified in AS2342: Development, testing and implementation of information and safety symbols and symbolic signs (part 5 and 7).

3.6

- i. All markings must be of a strong contrast against the surrounding areas.
- ii. It is desirable that markings be installed to minimise fading or damage from bather traffic or from cleaning.

3.7 A Resuscitation chart should be prominently displayed in the pool area. (Refer to Australian Resuscitation Council Basis Life Support Flow Chart) (Refer to RLSSA State Branches Catalogue for CPR Poster)

3.8 Where applicable it is recommended that any signage located in areas of sunlight be of a UV resistant design to prevent breakdown and fading of signage.

#### 4. REFERENCES

Guideline HMC21 Precautions During Diving (Recreational Swimming).

Australian Standard AS2416-2002: Design and Application of Water Safety Signs.

Australian Standard AS2899.1-1986: Public Information Symbol Signs.

Australian Standard AS2342-1992: Development, testing and implementation of information and safety symbols and symbolic signs.

Australian Resuscitation Council Basis Life Support Flow Chart [www.resus.org.au](http://www.resus.org.au).

Life Saving Victoria, (2006). Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

<http://www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4>

Royal Life Saving Society State Branches Catalogue for CPR Poster.  
[www.royallifesaving.com.au](http://www.royallifesaving.com.au).

## GUIDELINE HMC16.

### 1. TITLE POOL DEPTH MARKINGS

2. PURPOSE To advise pool designers, builders and operators on the minimum standard of markings for pool water depths.

### 3. GUIDELINES

- 3.1
  - i. All depth markings should be provided in metric measurements.
  - ii. Markings should be in metres, e.g. 0.9m, 1.2m, 1.5m, 1.8m, 2.0m.
- 3.2 The markings should be in numerals and letters at least 100mm in height.
- 3.3 Markings should be placed in a position where they can be seen from the water and from the poolside.
- 3.4 The number and location of depth markings will vary dependent upon the size and configuration of the pool. However there should always be depth markings at the shallow end and deep end, and additional markings along the length of the pool, as necessary to be visible from all areas inside the pool and surrounding the pool.
- 3.5 Any sharp change in gradient should be clearly marked and sign posted.  
(Refer also Guidelines HMC11 Design of Pool Tank)
- 3.6
  - i. In shallow water generally 1.2m deep or less the words CAUTION SHALLOW WATER or DO NOT DIVE or similar should be visible from the water and the pool concourse.
  - ii. In deep water generally 1.5m deep or more the words DANGER DEEP WATER or similar should be visible from the water and the pool concourse.
  - iii. In water depths of 1.8m or less an international standard no diving sign should be provided.  
(Refer HMC15 Advisory Signs)
- 3.7
  - i. All pool depth markings should be of a strong contrast against the surrounding areas.
  - ii. Pool depth markings should be installed to minimize fading or damage from bather traffic or from cleaning.
- 3.8 For further information please refer to the Life Saving Victoria (2006) Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

### 4. REFERENCES

Guideline HMC11 Design of Pool Tank.

Guideline HMC15 Advisory Signs.

Life Saving Victoria (2006) Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

[www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4](http://www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4)

## GUIDELINE HMC17.

1. TITLE                    SHADE PROTECTION
2. PURPOSE                To establish guidelines for the safe design of swimming pool entry and exit.
3. GUIDELINES
  - 3.1                        Landscaping  
In open-air environments the landscaping and choice of trees should provide areas of shade. There should be enough provision of shade over wet and dry areas to cater for all those who wish to avoid long exposure to the sun, particularly between 11.00am and 3.00pm.
  - 3.2                        Awnings/Covered Areas
    - 3.2.1                    The provision of awnings and covered areas with appropriate seating is recommended.
    - 3.2.2                    Umbrellas can be used to increase the availability of shade. They can be fixed or moveable, however when in use they must be anchored securely.
4. REFERENCES            [www.sunsmart.com.au](http://www.sunsmart.com.au)

SECTION : 04

SUPERVISION

## GUIDELINE HMC18

1. **TITLE** PARENTAL SUPERVISION
2. **PURPOSE** To outline the guidelines for entry for children to swimming pools and the expected parental behaviour.
3. **DESCRIPTION**

It is emphasised that supervision by a competent person is essential whenever young children are near a pool. Parents should be aware that young children cannot understand concepts such as safety, danger, drowning and death. Also, they forget quickly, thus constant training and practice are necessary to maintain awareness and competence.

Drownings of young children typically have two features: silence and speed. There is seldom a splash or a call for help when the child falls into a swimming pool and the child's involuntary actions turn him or her face-down once in the water. Within as little as 30 seconds the child can become unconscious.

The need for constant parental supervision cannot be over-emphasized.
4. **GUIDELINES**
  - 4.1
    - i. Children under 10 years should not be allowed entry unless under the active supervision of a person 16 years or older. (Active is defined by the Concise Oxford Dictionary as: given to action, working, effective, practical, and diligent).
    - ii. The discretion of the pool management may be used to increase these ages however it is not recommended that these ages are lowered.
  - 4.2 Parents or guardians should actively supervise their charges at all times and as such should be dressed ready for action including unexpected entry to a pool.
  - 4.3 Parents or guardians should keep an eye on children at all times when they are near or in the water, and be vigilant as distractions such as talking on the phone or reading a book can divert the supervisors attention.
  - 4.4 Signage
    - 4.4.1 Signage or literature indicating the parental supervision policy of the pool is recommended, and should be in simple, positive, easily understood language and using symbols consistent with applicable Australian Standards (AS 2899.1-1986: Public Information Symbol Signs & AS 2899.2-1986: Public Information Signs- Water Safety Signs).
    - 4.4.2 Suggested signage should include the following:
      - i. Unsupervised aquatic environment, Do Not Swim Alone.
      - ii. Any persons using this aquatic environment does so at their own risk, management recommends supervision at all times. (Refer Guideline HMC 1 General Supervision)
    - 4.4.3 Signage or literature indicating the parental supervision policy of the facility should be displayed at the following points:
      - i. Entry to the facility.
      - ii. Entry or exit of change areas.
      - iii. Suitable locations e.g. toddlers pool, play areas.
5. **REFERENCES**

Guideline HMC1 General Supervision.

Australian Standard AS 2899.1-1986: Public Information Symbol Signs.

Australian Standard AS 2899.2 1986: Public Information Signs- Water Safety Signs.

Life Saving Victoria (2006) Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

## GUIDELINE HMC19.

1. TITLE                    **SAFE USE OF FLOATING PLAY EQUIPMENT**
2. PURPOSE                To establish guidelines for the safe recreational use of floating mats and rafts, and small inflatable play equipment.
3. GUIDELINES
  - 3.1                        Floating Mats and Rafts
    - 3.1.1                    Non inflatable mats and rafts constructed of high density and often hard buoyant material are increasingly used for casual water play.
    - 3.1.2                    Potential hazards with this type of equipment include:
      - i. Use in deep water where non-swimmers may fall from equipment.
      - ii. Falling from equipment onto pool wall or concourse.
      - iii. Entrapments underneath the equipment.
      - iv. Large equipment or too many items may restrict supervisor visibility.
      - v. User injury from hard equipment falling or being pushed into or onto the user.
      - vi. Allowing jumping from poolside onto the floating items.
      - vii. Use in shallow water where people may fall from equipment.
      - viii. Those not familiar with the environment.
      - ix. Unused equipment left unattended on concourse.
    - 3.1.3                    Maximum unbroken surface area of covered water should be no bigger than 1m<sup>2</sup> to ensure supervision below the surface of the water and the pool bottom.
    - 3.1.4                    Consideration should be given to the maximum number of floating mats and rafts allowed in the pool at any one time.
  - 3.2                        Small Inflatable Play Equipment
    - 3.2.1                    Potential hazards with this type of equipment include:
      - i. Use in deep water where non-swimmers may fall from equipment.
      - ii. Falling from equipment onto pool wall or concourse.
      - iii. Entrapments underneath the equipment.
      - iv. Large equipment or too many items may restrict supervisor visibility.
      - v. Allowing jumping from poolside onto the floating items.
      - vi. Use in shallow water where people may fall from equipment.
      - vii. Those not familiar with the environment.
      - viii. Unused equipment left unattended on concourse.
      - ix. A non-swimmer following a floating toy into deep water.
      - x. Wearing a flotation aid and moving into deep water.
      - xi. Young children choking on small toys placed in their mouths.
      - xii. Cleanliness (equipment not drying out between uses).
    - 3.2.2                    Play equipment should, but is not limited to, being:
      - i. In safe, working order.
      - ii. Suitable for the age of users.
      - iii. Large enough (greater than 7mm) in diameter to prevent becoming a choking hazard.
    - 3.2.2                    The body corporate should have a policy on whether they provide inflatable equipment or allow users to provide their own.
    - 3.2.3                    The hotel, motel, camping or caravan ground management should have a policy on whether they provide inflatable equipment or allow users to provide their own.

- 3.2.4 Persons who use exhaled air to inflate equipment should be afforded extra supervision.
- 3.2.5 Inflatable equipment, in particular inner tubes, should be inspected by users and/or supervisors prior to use to ensure there is no risk presented by an exposed or protruding inlet valve.
- 3.2.6 Bathers should not be permitted to jump or dive through inflatable rings.
- 3.2.7 Extra precaution and supervision may be required in outdoor pools, in particular on windy days.
- 3.2.8 Children requiring the use of personal floatation devices should not use this equipment.
- 3.2.9 Advice to be given to users:
- i. Use in accordance with manufacturers instructions.
  - ii. Users should not inadvertently or deliberately push or throw each other either onto or off the equipment.
  - iii. Users should not attempt to stand upright on the structures.
  - iv. Users should not dive off the equipment into the pool.
  - v. Users should remove all jewellery, watches and other sharp objects before using the equipment.
  - vi. Users should not deliberately swim under the inflatable.
  - v. Users must not lift the inflatable in an attempt to dislodge others.
  - vi. Small inflatables should only be used in depths of at least 1m.



## GUIDELINE HMC20.

1. TITLE PRECAUTIONS DURING THUNDERSTORMS (LIGHTNING)
2. PURPOSE To provide guidance on safe practice for the supervision of outdoor swimming pools during thunderstorms and lightning conditions.
3. GUIDELINES
  - 3.1 Outdoor Swimming Pools
    - 3.1.1 The presence of lightning around an outdoor swimming pool is a safety risk. There are a number of factors that need to be considered, such as the surrounding environment and structure.
    - 3.1.2 The outdoor swimming pool with spacious open grounds may be at a greater risk than other pools of a lightning strike.
  - 3.2 Supervision

Note: A flash-to-bang measurement of approximately 30 seconds indicates that the lightning is 10 km away. A measurement of 30 seconds or less requires that immediate action be taken.

    - 3.2.1 Evacuation
      - i. The closure of the swimming pool is required when lightning is within 10km of the aquatic venue. This should be completed by Supervisory staff where appropriate. It is recommended that advice regarding use of the Hotel, Motel, Camping and Caravan Ground pool during lightning be provided to guests via induction manuals and other communication methods employed by the management. Further poolside advice is recommended in the form of appropriate signage. (Refer Guideline HMC 15 Advisory Signs)
      - ii. Use the “flash-to-bang” method, by measuring the time between a lightning flash and the thunderclap, to make a rough measure of the distance.
      - iii. When lightning is less than 10km away, people occupying the pool and pool surrounds should evacuate to a covered area, which provides sufficient electrical earth for a lightning strike. Gazebos, marquees and trees are not sufficient.
    - 3.2.2
      - i. Electrical equipment should not be used during electrical storms
      - ii. Cordless and mobile phones should not be used outside during electrical storms, while landline phones should not be used at all during thunderstorms. (Refer Bureau of Meteorology’s NSW Severe Weather Section)
    - 3.2.3 Resuming Pool Activities
      - i. According to the National Lightning Safety Institute more lightning originates from the back end of a thundercloud than from the front side, making recreation activity resumption decisions difficult. Managing the risk of lightning strikes, therefore, requires a cautious and conservative approach.
      - ii. Once lightning has moved greater than 10km away or has subsided, people may return to normal activity. As a general rule, pool activities should remain suspended until thirty minutes after the last thunderclap is heard.
      - iii. Supervisors (whether voluntary or paid) should continue to monitor the weather for changes as storms activity could return.
  - 3.3 First Aid
    - 3.3.1
      - i. Anyone struck by lightning should be rescued as soon as it is safe to do so.
      - ii. The safety of the rescuers should be considered.
      - iii. The casualty should be moved to a covered area, assessed and treated.

3.4 Monitoring

3.4.1 If there are area weather warnings issued, they should be monitored by radio or telephone, if and when safe to do so.

3.4.2 Detailed monitoring is available through the Bureau of Meteorology in each State and Territory. Refer <http://www.bom.gov.au/> for links to each state and Territory Bureau of Meteorology.

4. REFERENCES

Guideline HMC 15 Advisory Signs.

Australian/New Zealand Standard AS/NZS 1768 (Int):2003: Lightning Protection.

Australian Government Bureau of Meteorology <http://www.bom.gov.au/>

Bureau of Meteorology's NSW Severe Weather Section. NSW Lightning Bolt Cited 25.02.2005 at [www.bom.gov.au/weather/nsw/sevwx/bolt/vol11no1.pdf](http://www.bom.gov.au/weather/nsw/sevwx/bolt/vol11no1.pdf)

[www.bom.gov.au/info/thunder/#protection](http://www.bom.gov.au/info/thunder/#protection)

Kithil, Richard & Johnston, Kevin. Lightning and Aquatic Safety: A Cautionary Perspective for Indoor Pools. National Lightning Safety Institute. Cited 10/12/2004 at [www.lightningsafety.com/nlsi\\_pls/indoor\\_pools.html](http://www.lightningsafety.com/nlsi_pls/indoor_pools.html)

## GUIDELINE HMC21.

1. TITLE PRECAUTIONS DURING DIVING (RECREATIONAL SWIMMING)
2. PURPOSE To provide safety guidance for diving (water entry) and methods of supervision during recreational swimming.
3. DEFINITION
  - 3.1 A dive entry is defined as a forward entry from a standing position with arms out-stretched and hands held together.
  - 3.2 Forward clearance is defined as the distance from the platform from which the diver departs, for which the water should be unobstructed. Obstructions may be permanent, such as pool walls, or temporary, such as pool equipment or other swimmers.
4. GUIDELINES

Note: *Diving into water can be a dangerous activity and the following guidelines describe the minimum conditions required.*

  - 4.1 Depths for Recreational Dives
    - 4.1.1
      - i. A dive entry is not recommended into a water depth of less than 1800mm.
      - ii. A dive entry from pool sides exceeding 380mm above water level should not be permitted into water depth less than 2000mm.
      - iii. Dive entry should only be allowed in pools where there is a forward clearance of 6000mm or greater, the first 5000mm of which should be at the recommended water depth.
  - 4.2 Signage

Note: *Refer to Guideline HMC 14 Advisory Signs, Guideline HMC 16 Pool Depth Markings, Life Saving Victoria (2006) Aquatic and Recreational Signage Style Manual. Third Edition, July 2006. and the Australian Standard AS2416 2002: Design and application of water safety signs.*

    - 4.2.1 All signage relating to diving rules should meet the Australian Standard AS2416-2002: Design and application of water safety signs for classification, layouts, size, legend, legibility, colours, and siting.
    - 4.2.2 All signage relating to diving rules should accurately convey those rules.
    - 4.2.3 All signage should be maintained to be clear and easily identified.
    - 4.2.4 All markings should be of a strong contrast against the surrounding areas, as per AS2416 2002: Design and application of water safety signs.
    - 4.2.5 Wording and symbols on signage relating to diving rules should be consistent for all instances throughout the venue.
    - 4.2.6 In water depths of 1.8m or less an international standard no diving sign should be provided.
    - 4.2.7 All practicable measures should be taken to prevent diving from elevated positions arising from design features or equipment used in the pool.
    - 4.2.8 For information on Diving Boards refer Guideline HMC11 Design of Pool Tank.
5. REFERENCES

Guideline HMC11 Design of Pool Tank.

Guideline HMC15 Advisory Signs.

Guideline HMC16 Pool Depth Markings.

Australian Standard AS2416-2002: Design and application of water safety signs.

Life Saving Victoria (2006) Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.  
[www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4](http://www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4)

## GUIDELINE BC22.

### 1. TITLE ALCOHOL RISK MANAGEMENT

2. PURPOSE To provide guidance on the use of alcohol in aquatic facilities and the management of the associated risks.

### 3. GUIDELINES

- 3.1 Alcohol has long been recognised as a contributing factor in many accidental drownings. Alcohol impairs balance and coordination, judgment and cognition, is likely to increase risk-taking behaviour and diminishes an individual's physical ability to carry out tasks.
- 3.2 The Hotel, Motel, Camping or Caravan Ground should conduct a thorough risk management assessment prior to the serving of alcohol near or in areas associated with the aquatic amenities of the premises. (Refer to Appendix B Risk Management for a detailed Risk Management treatment process, along with AS/NZS 4360-2004: Risk Management).
- 3.3 The facility should implement appropriate educational strategies in relation to its aquatic amenities, to discourage patrons who may be consuming alcohol from doing so near the water areas at that facility. Such strategies should also look to include information on the hazards of alcohol consumption in relation to aquatic activity (Refer Alcohol and Water Safety: National Alcohol Strategy 2001 to 2003-04). This may include appropriate signage, educational messages via newsletters or induction manuals.

For information on the Responsible Serving of Alcohol refer Consumer Affairs Victoria, Liquor Licensing, <http://210.9.62.136/llv/llvninter.nsf/cd/frameset.htm>.

- 3.4 Signage  
The following signage is recommended for use by the body corporate to reduce the risk of alcohol related injury or death in the aquatic environment:
- i. Responsible consumption of alcohol is recommended.
  - ii. No Glassware in the pool or spa area.
  - iii. No alcohol to be consumed in the swimming pool or spa.
  - iv. Individuals under the influence of drugs or alcohol are not permitted to use the swimming pool or spa.

For more information of the design of these signs please refer to HMC14 Advisory Signs.

### 4. REFERENCES

Guideline HMC15 Advisory Signs.

Appendix B Risk Management.

ASNZS 4360-2004: Risk Management.

Driscoll, T., Steenkamp, M., and Harrison, J.E. (2003). Alcohol and Water Safety: National Alcohol Strategy 2001 to 2003-04. Commonwealth Department of Health and Ageing.

Consumer Affairs Victoria, Liquor Licensing, <http://210.9.62.136/llv/llvninter.nsf/cd/frameset.htm>. Viewed 7th February 2005.

SECTION : 05

FURTHER  
INFORMATION

## APPENDIX A

### 1. TITLE DEFINITIONS

### 2. DEFINITIONS

#### Breathing Apparatus

Self contained equipment with compressed air tank and face mask allowing access into a contaminated environment without risk to the wearer.

#### Critical Incident Stress (CIS)

Often referred to as Post Trauma Stress. An emotional, physical or mental reaction to a traumatic incident.

#### Dangerous Goods

Dangerous Goods are those substances that may be corrosive, flammable, explosive, toxic, oxidising or water reactive. Dangerous Goods are classified as those which will have an immediate physical or chemical affect on property, people or the environment by fire, explosion, corrosion, or poisoning.

#### Deep

Water of 1.5m deep is considered the generic deep-water depth measurement.

#### Emergency Action Plan (EAP)

A pre determined, documented and rehearsed plan of action implemented on the witnessing or advice of the occurrence of an emergency (e.g. fire, bomb threat, chemical spill).

#### Guideline

A guideline is a voluntary standard.

#### Gutter

A channel around the edge of a swimming pool into which water flows for return to the filtration heating and treating equipment.

#### Hazard

A source of potential harm.

#### Hazardous Substance

Hazardous Substances are those substances that may have a health effect on those who deal with them. A Hazardous Substance may also be classified as a Dangerous Good.

#### Lap Swimming

Generally a formal swimming activity undertaken for exercise, rehabilitation and competition training within a defined lane of a swimming pool.

#### Likelihood (as defined by AS/NZS 4360: 2004 Risk Management).

Used as a general description of probability or frequency. (Note: Can be expressed qualitatively or quantitatively)

#### Major Incident

An incident resulting in injury or damage which is deemed to be life threatening.

#### Minor Incident

An incident resulting in injury or damage which is not deemed to be life threatening.

#### Personal Protective Equipment

Personal Protective Equipment (PPE) such as gloves, goggles and face mask are designed to protect an individual when they are working in a hazardous environment.

#### Public Place (as defined by AS/NZS 2927:2001 The storage and handling of liquefied chlorine gas)

Any place other than private property, open to the public, which the public has a right to use and which includes a public road. Private car parking areas are not considered to be public places.

#### Regular

A normal occurrence.

#### Risk (as defined by AS/NZS 4360: 2004 Risk Management)

The chance of something happening that will have an impact on objectives.

(Note 1: A risk is often specified in terms of an event or circumstance and the consequences that may flow from it).

(Note 2: Risk is measured in terms of a combination of the consequences of an event and their likelihood).

(Note 3: Risk may have a positive or negative impact).

#### Risk Management

The identification and management of potential and existing hazards.

#### RLSSA

The Royal Life Saving Society Australia.

#### Separation Distances

The minimum distance required between stores of two different chemicals or between a store of a chemical and a protected or public place.

#### Wet Deck

The pool concourse is essentially flush with the surface of the pool water. The water flows into the wet deck gutter(s) to return to the plant room.

## APPENDIX B

### TITLE: RISK MANAGEMENT

#### ABSTRACT

Risk management is the process of identifying, assessing and controlling risks to people, to an organisation, or to an asset. Formalised risk management is becoming an essential tool in the aquatics industry. It is relevant to many facets of the aquatics industry such as supervision, programming, occupational health and safety and plant room operation. A risk management plan is a requirement under various governmental legislation such as the Victorian Dangerous Goods (Storage and Handling) Regulations 2000 and the National Occupational Health and Safety Commission – National Standard – Storage and Handling of Workplace Dangerous Goods.

(Refer to AS/NZS 4360-2004 Risk Management and HB 436-2004 Risk Management Guidelines Companion to AS/NZS 4360-2004).

#### DESCRIPTION

The most important steps to take in risk management are risk identification and analysis. Risk management can cover many facets of the operation of an aquatic venue, but in particular must be done in relation to Dangerous Goods and Hazardous Substances, as it is required by law in some cases.

Risk management, as described in Australian Standard AS/NZS 4360:2004 Risk management, involves establishing an appropriate infrastructure and culture and applying a logical and systematic method of establishing the context, identifying, analysing, evaluating, treating, monitoring and communication risks associated with any activity, function or process in a way that will enable organisations to minimize losses and maximize gains.

Establishing the context involves defining the risk analysis project and its goals and objectives, defining the time and location the project will run for and defining the extent and comprehensiveness of the analysis.

The criteria against which the risks are to be evaluated needs to be determined. The criteria may be an organisational set of criteria, designed so that you can find the extent of compliance against what your own organisation expects. The criteria used could also range from international or national best practice, applicable laws, regulations, and industry guidelines such as the Guidelines for Water Safety in Hotels, Motels, Camping and Caravan Grounds, Australian Standards or even to the criteria other Hotels, Motels or Camping and Caravan Ground Swimming Pool and Spa operators are setting themselves by.

Once you have established the context of the analysis, the next step is to identify the risk(s). Obviously the methods used to identify the risks will vary according to what risks are being looked for. They may involve physical testing of plant, water quality, air handling etc or they may involve auditing documents, procedures and financials. Of utmost importance is that the identification be systematic and thorough. Anything that is not picked up at this stage can't be dealt with in the latter stages of the analysis.

In the identification process, look at what can happen by getting a list together of factors that may affect the item being assessed. Once this list of what can happen has been established, look at what, how and why these things may happen and what tools or techniques will be necessary to identify these risks. Tools may include checklists, brainstorming, scenario analysis and systems analysis.

Risk analysis is deciding what level of risk is associated with the risks highlighted in the identification process (the previous step). Is it a major risk or is it a minor risk? A common approach to analysing risk is to use a risk analysis matrix. The matrix is either a qualitative analysis which uses descriptive scales to describe the likelihood of an event occurring (ranging from almost certain to rare) and to describe the potential consequences if the event does happen. Or it can be a quantitative analysis where numerical values are assigned such as frequencies for an event happening and outcomes measured in dollar costs. An example of a qualitative risk analysis matrix is shown in Tables 1 - 3. Once the risks have been identified and analysed, they need to be treated. Risk treatment can involve many strategies but they should fall into one of four categories, which are:

- a) Reduce the likelihood.
- b) Reduce the consequences.
- c) Transfer the risk.
- d) Avoid / eliminate the risk.

Each strategy will have its own pros and cons. Some will be impractical such as eliminating the risk of drowning in a pool by removing the water. Other issues will involve cost, time and the willingness of others to take on a risk. Throughout the whole process, monitoring of the risks and the effectiveness of the risk treatment and systems is vital, as is communication. The relevant stakeholders need to be informed of the process. This is so as to minimise any conflict or misunderstanding with people such as staff, the facility's clientele, local residents, contractors, other organisations such as councils as to why the outcomes of the analysis have been what they are.

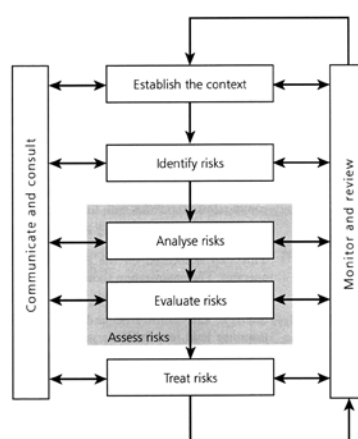


Fig 1. Risk Management Process Flow Chart from AS/NZS 4360

Risk management is a vital process for both the aquatic and the body corporate industry and its clientele. The Australian Standard AS/NZS 4360:2004 Risk Management and the Handbook HB 436:2004 Guidelines to AS/NZS 4360:2004 is a very valuable tool in this regard.

# RISK ASSESSMENT PROCEDURE

## IDENTIFICATION

Identify hazards that could cause harm. This is the responsibility of everyone. Hazards can be identified by various means. Reviewing incident and accident data, conducting audits utilising checklists and regular inspections using personnel’s experience are just a few means of identifying hazards. All potentially harmful hazards must be reported to management.

## EVALUATION

You will have to decide whose responsibility it is to evaluate the identified hazards. Whether they are internal or external to your organisation, they must do this stage in consultation with your staff. Persons involved should be familiar with the subject being assessed and will evaluate the risk level associated with the hazard determine the consequence, the exposure and the probability of each identified hazard.

For each identified hazard ask “what if” questions:

- What if that fell, burst or leaked?
- What if someone tripped over that?
- What if someone un-authorized enters the area?
- What if someone does that job when they are tired, or rushed?
- What if someone touched/sniffed that?

This will enable you to determine the potential severity (consequence) that could result.

### Likelihood:

Estimate how likely the consequence is to happen as a result of exposure to the hazard using the following table:

Table 1. Qualitative Likelihood

CATEGORY	PROBABILITY	DESCRIPTION
A.	Almost certain, common;	Is expected to occur in most circumstances;
B.	Likely, has happened;	Will probably occur in most circumstances;
C.	Possible, could happen;	Might occur at some time;
D.	Unlikely, not likely;	Could occur at some time;
E.	Rare, practically impossible.	May occur only in exceptional circumstances.

### Consequence:

What sort of harm could be caused? Classify the category of the consequence using the following table:

Table 2. Qualitative Consequence

CATEGORY	CONSEQUENCE (HARM)	DESCRIPTION
1.	Catastrophic;	Fatalities;
2.	Major;	Serious injury, such as permanent disability;
3.	Moderate;	Medical treatment or lost time injury;
4.	Minor;	Minor injury, such as first aid;
5.	Insignificant.	No injury.



Once you have decided on the appropriate category for the likelihood of the event occurring and a category for the consequences (if it does occur), a risk score can be determined. This is done by cross-referencing the likelihood of the consequence being realised (A, B, C, D, or E) with the potential consequence (1,2, 3, 4, or 5) using the matrix in Table 3.

For example, an event that has been rated as “likely to occur” will be Category B for Likelihood (refer Table 1), if the consequences have been rated as “minor”, it will be rated as Category 4 for Consequence (refer table 2). By cross referencing Column B and Row 4 in Table 3 below, you will get a risk assessment of 14, which falls into the medium risk level.

Table 3. Qualitative Risk Assessment Matrix.

A	B	C	D	E	
1	2	4	7	11	1
3	5	8	12	16	2
6	9	13	17	20	3
10	14	18	21	23	4
15	19	22	24	25	5

CONSEQUENCE  
(HARM)

The risk scores that are arrived at after assessing each risk with the matrix can provide a ranking that will give an indication of the priority and the qualitative level of risk, and the subsequent need to take remedial action. Table 4 shows the levels of risk associated with the outcomes from using the Risk Assessment Matrix shown in Table 3.

Table 4. Levels of Risk

<b>A SCORE OF 1 – 6 = HIGH RISK: IMMEDIATE CORRECTION REQUIRED. CONSIDER DISCONTINUING.</b>
<b>A SCORE OF 7 – 15 = MEDIUM RISK: ATTENTION NEEDED, CORRECTION REQUIRED.</b>
<b>A SCORE OF 16 – 25 = LOW RISK: PERHAPS ACCEPTABLE AS IS.</b>

The level of acceptable risk varies with all hazards. It varies with the ways and available means of reducing that risk and the skills and competencies of persons managing the risks. What is an acceptable risk in one situation may not be an acceptable risk in another situation. Each risk must be assessed and dealt with on an individual basis.

### CONTROL

Risk control can be defined as modifications to a task or process in order to reduce the level of risk to a level that is as low as reasonably achievable. This will involve identifying a range of options for treating the risk.

The following table provides information on the preferred sequence of risk control in the workplace as has been defined by the National Occupational Health and Safety Commission (NOHSC). This sequence is known as the “hierarchy of controls”.

For further information please refer to <http://www.nohsc.gov.au/OHSinformation/Databases/OHSSolutions/hierarchy.htm> or [http://www.workcover.vic.gov.au/vwa/home.nsf/pages/so\\_glossary](http://www.workcover.vic.gov.au/vwa/home.nsf/pages/so_glossary) - H

METHOD	HOW TO DO IT	EXAMPLES
Elimination	Eliminate the hazard from the workplace altogether. NOTE - <i>this is the most effective way the workplace can be made safer. You should always try to do this before attempting any other method of control.</i>	<ul style="list-style-type: none"> <li>• Dispose of unwanted chemicals.</li> <li>• Eliminate hazardous plant or processes.</li> <li>• Repair damaged equipment promptly.</li> </ul>
Substitution	If it is not possible to eliminate the hazard, substitute it with something - preferably of a lesser risk - which will still perform the same task in a satisfactory manner.	<ul style="list-style-type: none"> <li>• Reduce box size wherever possible, to reduce weight.</li> <li>• Replace a hazardous chemical with a less dangerous one.</li> </ul>
Isolation	Isolate the problem from staff – this is often done by the use of separate purpose-built rooms, barricades, or sound barriers, etc.	<ul style="list-style-type: none"> <li>• Isolate and store chemicals properly.</li> <li>• Put noisy machinery in soundproofed rooms.</li> <li>• Use lock-out tags.</li> </ul>
Engineering controls	Re-designing equipment, work processes or tools to reduce or eliminate the risk.	<ul style="list-style-type: none"> <li>• Ensure proper machine guarding is in place.</li> <li>• Use anti-glare screens on computer VDU's.</li> <li>• Change bench heights to reduce bending.</li> </ul>
Administrative controls	Provide appropriate training, written work procedures, adequate supervision, signage, maintenance of plant and equipment, or limitation of exposure time.	<ul style="list-style-type: none"> <li>• Give appropriate training to all staff.</li> <li>• Provide adequate warning signs.</li> <li>• Maintain plant and equipment properly.</li> </ul>
Personal protective equipment (PPE)	Provide adequate personal protective equipment. NOTE - <i>this is the least preferable method of dealing with a hazard – it should only be adopted when all other methods have proven unsuitable.</i>	<ul style="list-style-type: none"> <li>• Provide earplugs for staff in noisy areas.</li> <li>• Make sure eye protection is worn when staff are working with hazardous chemicals.</li> </ul>

The hierarchy of control should be considered as far as practicable in determining the most appropriate type of risk control.

Practicable means feasible having regard to:

- a) The severity of the hazard or risk in question.
- b) What we know about the hazard or risk and ways to remove or lessen it.
- c) Available ways to remove or lessen.
- d) The cost.

In practice a less preferred method of control might be used initially to reduce a hazard until a preferred method is completed.

The Australian Standard for risk management, AS/NZS 4360:2004 Risk management takes a different approach to risk treatment. They have identified five options for the treating risks and they are:

- a) Risk aversion (avoidance).
- b) Reduce the likelihood of the occurrence.
- c) Reduce the consequences.
- d) Transfer the risk (contracts, insurance, partnerships, joint ventures).
- e) Retain the risk (either as it is or use (b) & (c) first).

Even though it is a different approach, you can see how the risk treatment strategies advocated by the NOHSC fall under the five broad categories advocated in the Australian Standard.

An important point to remember when looking for suitable risk treatment solutions is that they have to be weighed up against the expected outcomes of the event happening. For example, one way to control the risk of a sodium hypochlorite spill is to not store it on site and to not use it. This risk control by elimination has successfully eliminated the risk of a spill but it also introduces new risks such as those associated with the new source of disinfection that would have to be utilized in the absence of sodium hypochlorite.

#### RECORD KEEPING

The outcome of any risk assessment should always be recorded and include:

- The name of the assessor.
- The date of the assessment.
- The locality for which the assessment was done.
- The risks / hazards that were assessed.
- The risks that were identified.
- Details on how the identified risks were controlled and why.

#### MONITOR AND REVIEW

Whatever risk management program is utilized, it is very important to continue to monitor and review the whole process from the very start at establishing the context through to risk control. The situations requiring risk management are fluid in nature and require a continual process of monitoring and review. If any new or different chemical is introduced, then the risk assessment should be repeated for this chemical.

#### Further Information

AS/NZS 4360 –2004: Risk management (available from Standards Australia – [www.standards.com.au](http://www.standards.com.au))  
HB 436 – 2004: Guidelines to AS/NZS 4360:2004.

## APPENDIX C

### 1. TITLE REFERENCES

#### AUSTRALIAN STANDARDS

##### AS 1319-1994

Safety signs for the occupational environment.

##### AS 1345-1995

Identification of the contents of pipes, conduits and ducts.

##### AS 1428.1 – 2001

Design for Access and Mobility - General Requirements for Access - New Building Work.

##### AS 1668.2-2002

The Use of Ventilation and Air-conditioning in Buildings - Ventilation Design for Indoor Air Contaminant Control.

##### AS 1894-1997

The storage and handling of non-flammable cryogenic and refrigerated liquids.

##### AS 2342 – 1992

Development, Testing and Implementation of Information and Safety Symbols and Symbolic Signs.

##### AS 2416 – 2002

Design and Application of Water Safety Signs.

##### AS 2610.1–1993

Spa Pools - Public Spas.

##### AS 2899.1 – 1986

Public Information Symbol Signs – General Information Signs.

##### AS 2899.2 – 1986

Public Information Symbols Signs - Water Safety Signs.

##### AS/NZS 2927-2001

The storage and handling of liquefied chlorine gas.

##### AS 3633-1989

Private Swimming Pool – Water Quality.

##### AS/NZS 3661.2- 1994

Slip Resistance of Pedestrian Surfaces - Guide to the Reduction of Slip Hazards.

##### AS 3745 – 2002

Emergency control organisation and procedures for buildings, structures and workplaces.

##### AS 3780-1994

The storage and handling of corrosive substances.

##### AS 4326-1995

The storage and handling of oxidizing agents.

##### AS 4332-2004

Storage and handling of gases in cylinders.

##### AS/NZS 4360 – 2004

Risk Management.

##### HB436-2004

Risk Management Guidelines Companion to AS/NZS 4360 – 2004 Risk Management.

##### AS/NZS 4586 - 2004

Slip resistance classifications of new pedestrian surface materials

##### AS/NZS 4663 - 2004

Slip resistance measurement of existing pedestrian surfaces.

##### HB 197 - 1999

An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials

#### OTHER

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Australian Resuscitation Council Basis Life Support Flow Chart

[www.resus.org.au](http://www.resus.org.au)

Australian Government Bureau of Meteorology

<http://www.bom.gov.au/>

Bureau of Meteorology's NSW Severe Weather Section. NSW Lighting Bolt Cited 25.02.2005 at

<http://www.bom.gov.au/weather/nsw/sevwx/bolt/vol11no1.pdf>

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Kithil, Richard & Johnston, Kevin. Lightning and Aquatic Safety: A Cautionary Perspective for Indoor Pools. National Lightning Safety Institute. Cited 10/12/2004 at

[http://www.lightningsafety.com/nlsi\\_pls/indoor\\_pools.html](http://www.lightningsafety.com/nlsi_pls/indoor_pools.html)

Life Saving Victoria, (2006). Aquatic and Recreational Signage Style Manual. Third Edition, July 2006.

<http://www.lifesavingvictoria.com.au/extra.asp?id=331&OrgID=4>

## Material Safety Data Sheets Australia

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[http://www.workcover.nsw.gov.au/NR/rdonlyres/C8AF0A0C-BBCF-44B7-98AC-432B2F1CA165/0/guide\\_firstaid\\_121.pdf](http://www.workcover.nsw.gov.au/NR/rdonlyres/C8AF0A0C-BBCF-44B7-98AC-432B2F1CA165/0/guide_firstaid_121.pdf)

NT WorkSafe (2003). A Guide to First Aid in the Workplace. WorkSafe, Northern Territory.

<http://www.nt.gov.au/deet/worksafe/corporate/publications/pub0001.pdf>

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The Royal Life Saving Society Australia, (2004). Guidelines for Safe Pool Operation.

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The Royal Life Saving Society Australia,  
[www.royallifesaving.com.au](http://www.royallifesaving.com.au).

Victorian WorkCover Authority (1995). Code of Practice: First Aid in the Workplace. Melbourne: WorkCover, Victoria.

SAFEWORK SA. (1991). South Australian Government Code of Practice for Occupational Health and First Aid in the Workplace.

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<http://www.workcover.tas.gov.au/workcoverpublish/attach/gb119aguidet-2.pdf>

WorkSafe Western Australia Commission (2002). Codes of Practice: First Aid Facilities and Services, Workplace Amenities and Facilities, Personal Protective Clothing and Equipment

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[www.sunsmart.com.au](http://www.sunsmart.com.au)

## APPENDIX D

### FURTHER INFORMATION

#### REFERENCES SPECIFIC TO THE AQUATIC ENVIRONMENT.

References may be sourced from a number of areas. These may include

- Your Local Government Health Departments
- State and Territory Department of Human Services
- Aquatics & Recreation Victoria (ARV)
- Royal Life Saving Society Australia:
  - Guidelines for Safe Pool Operations
  - Guidelines for Water Safety in Urban Water Developments
  - Guidelines for Water Safety - Commercial Swim Schools & School Pools
  - Guidelines for Water Safety - Hotel, Motel, Camping & Caravan Grounds
  - Guidelines for Water Safety - Inland Water Bodies
- Life Saving Victoria (Aquatic and Recreational Signage Style Guide: Edition 2, January 2004).
- Chemical Suppliers:
  - Orica
  - Spectrum Chemicals
  - BOC Gases
  - Air Liquide
  - Local Retail Outlets
- Various State and Territory Workcover Authorities
- Environmental Protection Authority (EPA)
- Equipment Manufacturer's Guidelines

#### GOVERNMENT

##### Federal

- Australian Dangerous Goods Code 1998
- National Occupational Health & Safety Commission: National Standard - Storage and Handling of Workplace Dangerous Goods
- National Occupational Health & Safety Commission: National Code of Practice - Storage and Handling of Workplace Dangerous Goods

##### Australian Capital Territory

- Dangerous Goods Act 1975
- Dangerous Goods Regulations 1978
- Occupational Health and Safety Act 1989
- First Aid in the Workplace: Code of Practice 1994

##### New South Wales

- Dangerous Goods (General) Regulations 1999
- Occupational Health & Safety Regulation 2001
- Health and Safety Guide: First Aid in the Workplace 2001

### Northern Territory

- Dangerous Goods Regulations 2003
- Work Health (Occupational Health and Safety) Regulations 2002
- A Guide to First Aid in the Workplace 2003

### Queensland

- Dangerous Goods Safety Management Regulation 2001
- Workplace Health and Safety Act 1995
- Workplace Health and Safety (Miscellaneous) Regulation 1995
- Workplace Health and Safety Regulation 1997
- Workplace Health & Safety Queensland Advisory Standard 2003 for Hazardous Substances
- First Aid Advisory Standard 2004

### South Australia

- Dangerous Substances Act 1979
- Occupational Health, Safety and Welfare Act 1986
- Code of practice for the Control of Workplace Hazardous Substances
- South Australian Government Code of Practice for Occupational Health and First Aid in the Workplace.

### Tasmania

- Dangerous Goods Act 1998
- Dangerous Goods (General) Regulations 1998
- Workplace Health and Safety Act 1995
- Workplace Health and Safety Regulations 1998
- Hazardous Materials Emergency Manual
- A Guide to First Aid in the Workplace

### Victoria

- Occupational Health and Safety Act 2004
- Occupational Health and Safety Hazardous Substances regulations 1999
- Code of Practice for Hazardous Substances No 24, June 2000
- Code of Practice for First Aid in the Workplace No 18, June 1995
- Dangerous Goods Act 2000
- Dangerous Goods (Storage and Handling) Regulations 2000
- Code of Practice for the Storage and Handling of Dangerous Goods No 27, December 2000
- Health (Infectious Diseases) Regulations 2001
- Department of Human Services (Victoria) - Pool Operators Handbook

### Western Australia

- Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992
- Guidelines for the Preparation of an Emergency Plan and Manifests
- Occupational Safety and Health Regulations 1996
- Guidance Note – General Duty of Care in Western Australian Workplaces (Worksafe Western Australia Commission)
- Guidance Note – Storage of Dangerous Goods Placarding of Stores and Premises (Department of Industry and Resources)
- Guidance Note – Storage of Dangerous Goods – General Requirements for Licensed (Department of Industry and Resources)
- Guidance Note – Storage of Dangerous Goods – General Requirements for Premises Exempt from Licensing (Department of Industry and Resources)

### AUSTRALIAN STANDARDS

#### AS 1319-1994

Safety signs for the occupational environment.

#### AS 1345-1995

Identification of the contents of pipes, conduits and ducts.

#### AS 1894-1997

The storage and handling of non-flammable cryogenic and refrigerated liquids.

#### AS/NZS 2927-2001

The storage and handling of liquefied chlorine gas.

#### AS 3633-1989

Private Swimming Pool – Water Quality.

#### AS/NZS 3661.2-1994

Slip Resistance of Pedestrian Surfaces - Guide to the Reduction of Slip Hazards.

#### AS 3780-1994

The storage and handling of corrosive substances.

#### For Australian Standards information:

Standards Australia

t 1300 654 646

w [www.saiglobal.com.au](http://www.saiglobal.com.au)

## ADDITIONAL INFORMATION

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- w. [www.nsw.royallifesaving.com.au](http://www.nsw.royallifesaving.com.au)

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[www.royallifesaving.com.au](http://www.royallifesaving.com.au)

