PREFACE

These revised Guidelines for Safe Pool Operation are the result of an exhaustive review process conducted over the past two years.

The Guidelines for Safe Pool Operation were initially released in August 1991 following extensive discussions and consultation. In January 1994 a reprint, which contained a number of minor amendments, was issued to the broader Australian aquatics market. In 1996 the 2nd Edition of the Guidelines for Safe Pool Operation were released and since then there have been a number of new or revised Guidelines released.

These Guidelines were developed through a series of working groups, full Working Party discussions, consultation with facility operators, visits to aquatic facilities and through reference to international standards, resources and practices.

There were many inputs to the development of the guidelines, including:

- Royal Life Saving Society – Australia
- Life Saving Victoria
- YMCA
- The Australian Council for the Teaching of Swimming and Water Safety (AUSTSWIM)
- Swimming Australia Ltd
- Australian Swimming Coaches and Teachers Association

INTRODUCTION

1. Status of the Guidelines for Safe Pool Operation

The Guidelines have been developed in conjunction with expert personnel from a wide range of groups. They constitute the best advice that the group can offer at the time of the publication. The Guidelines are intended to be voluntary, acting as a guide to operators on the safe operation of swimming facilities. They have no formal, legal or regulatory status.

2. Scope

The Guidelines have been primarily designed for application in municipal owned public facilities. However, the Guidelines are intended to relate to all facilities in which members of the public are encouraged to attend for recreational, fitness or educational purposes.

3. Purpose

The development of the Guidelines were the result of:

- the need for a consolidated document which draws together advice from a range of legislation, regulations and expert statements from both Australia and overseas.
- the need to provide standardized advice to those operating, designing or developing facilities.
- the need to provide locally developed, practical guidelines for the safe operation of swimming facilities, to help protect municipalities and other operators from the imposition of inappropriate standards, particularly from overseas, by the legal system.
- to help operators in developing their own operations documents for their local facilities.

4. Format

The Guidelines have been developed in a loose leaf, as opposed to perfect bound format to ensure that they are capable of being modified and updated.

5. Ongoing Review

It is intended that the Working Party will meet regularly to review comments and undertake formal evaluations of the Guidelines. In addition, new Guidelines may be developed and implemented from time to time, following the protocol for the development of Guidelines.

Operators are encouraged to provide written comments on the Guidelines for evaluation by the Working Party. A feedback form is provided in this manual.

6. Implementation

It is not intended that all of the Guidelines be implemented immediately following publication. Indeed, it is recognized that it may take operators and support agencies some time to implement the Guidelines. For this reason it is suggested that for new Guidelines they be ‘phased in’ over a period following introduction.

7. Assistance

The Royal Life Saving Society - Australia and other agencies involved in the development of the Guidelines are in a position to provide information and advice on the implementation of the Guidelines. For introductory telephone support utilize the RLSSA Guidelines for Safe Pool Operation Support Line through the RLSSA National Branch Aquatic Industry Services on (02) 8217 3126 or facsimile (02) 8217 3199.

8. Further Copies

Further copies of the Guidelines for Safe Pool Operation can be obtained by contacting:

National Manager - Aquatic Industry Services
Royal Life Saving Society Australia
National Branch
PO Box 558
Broadway, NSW 2007

Phone (02) 8217 3126
Facsimile (02) 8217 3199

No assurance is offered that implementation of all guidelines or any portion of these guidelines will eliminate any hazard or exposure to loss of injury. Neither the Royal Life Saving Society Australia or any Branch nor the individual members of the Working Party assume any responsibility for decisions made by individuals who refer to this manual.

Royal Life Saving Society - Australia

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1. TITLE: OPERATIONS MANUALS

2. DATE ISSUED: 1 August, 2010 ISSUE: 3

3. PURPOSE: To establish the minimum safety content of swimming pool Operations Manuals.

4. DESCRIPTION:

4.1 (a) An Operations Manual should be prepared for every aquatic facility.

(b) The Operations Manual should be specific to the particular facility, taking into account aspects such as design, size, location of and activities conducted within the facility.

4.2 (a) Each Section of the manual should be capable of being issued in its own right, in order that those who may be responsible for the supervision of groups can receive the relevant sections.

(b) The Manual should be covered by a document control procedure and reviewed at least once every 12 months.

4.3 (a) All staff should receive a briefing on the contents of the manual on commencing employment.

(b) All staff should also receive training pertaining to their key areas of responsibility.

4.4 Periodic practice sessions on performing the emergency procedures contained in the manual should be undertaken to ensure staff understand their role. At least one evacuation exercise should be conducted in each calendar year.

4.5 The Operations Manual should include as a minimum, details on the following:

4.5.1 Physical Layout

a) Facility floor plan.
b) Pool/s dimensions.
c) Maximum number of patrons including bather loads.
d) Location of alarms, exits, fire fighting equipment, first aid areas/rooms and where appropriate, communication equipment.

4.5.2 Supervisory Procedures

a) Supervision risk assessment (refer also GSPO Guidelines GO7 & SU1)
b) Communication
c) Incident control and reporting
d) Emergency response (refer also GSPO Guideline G02).

4.5.3 Personnel Policies and Procedures

a) Lines of responsibility.
b) Employee position roles and responsibilities.
c) Personnel directory and call out procedures.

4.5.4 Training

a) Induction and orientation.
b) Qualifications and re-qualifications.
c) In - service training.

4.5.5 Emergency Action Plan (refer also GSPO Guideline GO2)

4.5.6 Occupational Health and Safety

a) OHS risk assessments (refer also GSPO Guideline GO7).
b) First aid.
c) Personal protective clothing.
d) Incident reporting procedures.
e) Hazard identification, isolation and repair.
f) Chemical delivery, storage and handling.
g) Manual handling.
h) Material Safety Data Sheets.
i) Plant inspections and frequency thereof.

4.5.7 Maintenance

a) Plant and equipment.
b) Buildings.
c) Fault reporting and repair.
d) Essential services.

4.5.8 Water Quality

a) Operating to relevant health regulations.
b) Dangerous goods and hazardous substances risk assessments (refer also GSPO Guidelines GO7 and TO1)
c) Turbidity and corrective action.
d) Under and overdosing of pool chemicals and corrective actions.
e) Balancing of water quality

4.5.9 Programs

a) List of programs offered.
b) Program safety requirements.
c) Pool or room set up and requirements.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, 2005, Human Kinetics, Champaign
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sports England Publications, Wetherby
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW
- Swimming Pool Water – Treatment and Quality Standards for Pools and Spas, 2nd Ed, 2009, Pool Water Treatment Advisory Group
- The Complete Swimming Pool Reference, 1994, Mosby Lifeline, St Loius

6. PREVIOUS ISSUES

- Guideline GO1 Operations Manuals, Issue 2, July 1996
- Guideline RS4 Operations Manuals, Issue 1, August 1991

1. TITLE: EMERGENCY ACTION PLAN

2. DATE ISSUED: 1 August, 2010 ISSUE: 2

3. PURPOSE: To establish guidelines on the minimum safety content of an emergency action plan.

4. DESCRIPTION:

4.1 (a) An emergency action (response) plan (EAP) is a set of documented and well rehearsed procedures which are initiated by a responsible employee on the occurrence of a major incident.

(b) All aquatic facilities should have an emergency action plan which is specific to their facility

4.2 The minimum safety content of an emergency action plan should include details on the following:

4.2.1 Routine aquatic emergency procedures:

a) Minor incident.
b) Overcrowding.
c) Disorderly behaviour.
d) Lack of water clarity.
e) Chemical irregularities.

4.2.2 Major Incidents

Incidents considered to be life threatening for any and all individuals including:

a) Suspected drowning.
b) Suspected spinal injury.
c) Cardiac incident
d) Chemical spill or leak

4.2.3 Staff Response (e.g. Supervisor or Lifeguard)

a) Minor incident.
b) Major incident.
c) Teamwork.
d) Communication.
e) Equipment.
f) First aid.
g) Reporting.
h) Evacuation procedures and checklists.

i) Evacuation routes and emergency assembly areas.

4.2.4 Rescue and First Aid Equipment

a) List of equipment.
b) Location of equipment.

4.2.5 Emergency Services

a) List of relevant emergency services.
b) Contact details for each service.
c) Procedure for liaising with relevant emergency services such as the local fire brigade and/or ambulance.
d) Call out procedures.

4.2.6 Evacuation

a) Fire.
b) Chemical spill or leak.
c) Bomb threat.
d) Power failure (Blackout).
e) Structural failure.
f) Use of outdoor pools during electrical storms (e.g. lightning).
g) Hold-Up
h) Explosion
i) Natural disaster
j) Physical threat

4.2.7 Critical Incident Stress (CIS) Debriefing/Post Trauma Counselling

a) Procedures for initiation of CIS debriefing.
b) Contact name and telephone numbers.

4.2.8 Practising Emergency Procedures

a) Frequency.
b) Training.
c) Simulation.
d) Public alert.
e) Debrief.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, 2005, Human Kinetics, Champaign
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto

- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sports England Publications, Wetherby
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW
- Swimming Pool Water – Treatment and Quality Standards for Pools and Spas, 2nd Ed, 2009, Pool Water Treatment Advisory Group
- The Complete Swimming Pool Reference, 1994, Mosby Lifeline, St Loius

6. PREVIOUS ISSUES

- Guideline GO2 Emergency Action Plan, Issue 1, July 1996

1. TITLE: RESCUE EQUIPMENT

2. DATE ISSUED: 1 August, 2010 ISSUE: 3

3. PURPOSE: To provide advice regarding the nature of rescue equipment to be available at an aquatic facility.

4. DESCRIPTION:

4.1 All aquatic facilities should provide rescue equipment for use in an emergency.

4.2 The type of equipment provided will be at the discretion of the facility management and may include items such as:

- reaching poles
- rescue tubes
- lifejackets
- throwing ropes or throwing bags
- spineboard
- self contained breathing apparatus
- oxygen equipment.

4.3 Where appropriate, rescue equipment should comply with relevant Australian Standards, such as AS 4758.

4.4 Location of Rescue Equipment

4.4.1 The location of the rescue equipment will vary according to features such as the nature of the pool, location of lifeguards, and use of the pool. However, rescue equipment should be within easy access of every lifeguard when on duty.

4.4.2 Those facilities with more than a single pool tank must ensure that rescue equipment is readily available in each location.

4.4.3 Lifeguards should be informed of the location and use of all rescue equipment located at the facility as part of their induction (refer Guideline SU7 Lifeguard Induction & In-Service Training).

4.4.4 If any rescue equipment is intended to be used as 'public access' rescue equipment, appropriate signage highlighting the position of the rescue equipment should be installed.

4.5 Rescue equipment should be inspected as part of regular facility inspections to ensure that it is in good working order. These inspections should be carried out at least once every three months (refer Guideline GO7 Risk Management).

4.6.1 Lifeguards should carry a minimum of a resuscitation pocket mask fitted with an oxygen inlet valve (as approved by AS 4259); a pair of disposable gloves and a signalling device such as a whistle (refer to GSPO Guideline SU9 Lifeguard Clothing and Equipment).

4.6.2 Consideration should be given to lifeguards carrying rescue equipment such as a throw rope or rescue tube with them while they are supervising the water (refer GSPO Guidelines SU1 Bather Supervision and GO7 Risk Management).

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, 2005, Human Kinetics, Champaign
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Guideline GO7 Risk Management
- Guideline SU1 bather Supervision
- Guideline SU7 Lifeguard Induction and In-Service Training
- Guideline SU9 Lifeguard Clothing and Equipment
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sports England Publications, Wetherby
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW
- The Complete Swimming Pool Reference, 1994, Mosby Lifeline, St Louis

6. PREVIOUS ISSUES

- Guideline GO3 Rescue Equipment, Issue 2, July 1996
- Guideline RS13 Rescue Equipment, Issue 1, August 1991

1. TITLE: HIRE OF FACILITIES

2. DATE ISSUED: 1 August, 2010 ISSUE: 3

3. PURPOSE: To provide guidance to facility operators on particulars to be taken in the hire of facilities.

4. DESCRIPTION:

4.1 Those who hire a facility, or part thereof, should receive from the management a letter of agreement or contract which clearly establishes the responsibility of the management and the hirer. This letter should be countersigned by the hirer to indicate that the terms and conditions have been accepted.

4.2 The letter of agreement should clearly establish:

a) Information regarding the specific number of persons using the facility, and their skills.
b) The activities to be conducted by the hirer's group.
c) The start and finish times of the hiring.
d) The name of the hirer's representative who will be personally present and in charge of the group.
e) The age of hirer and hirer's representative.
f) Who (either the aquatic facility or the hirer) will be providing lifeguards to supervise the session.
g) The number of lifeguards to be present and assigned to the group during the session (and qualifications if provided by the hirer).
h) Who (either the aquatic facility or the hirer) will be providing first aid for the session.
i) The number of first aid providers to be present during the session (and qualifications if provided by the hirer).
j) Respective responsibilities of the facility management and the hirer in an emergency. A distinction should be drawn between generated emergencies and facility emergencies (e.g. structural problems).
k) Who is responsible for insuring the activity.
l) Any local laws which must be enforced.
m) Rules of behaviour and conduct to be followed, if different to the normal facility rules.
n) Any specific advice to be given to users.
o) Responsibility for the provision of First Aid Services.
p) Access to First Aid equipment, or otherwise.
q) Any relevant medical conditions of participants i.e. Allergies.

4.3 The aquatic facility is responsible for ensuring that the hirers stated activities on the letter of agreement is compliant with the facility's risk management plan (refer also Guideline GO7).

4.4 The hiring group should be provided with a copy of the emergency action plan and procedures and should be requested to sign to the effect these have been read and understood.

4.5 (a) School user groups must be aware of, and adhere to their responsibilities under any existing ministerial guidelines relevant to their State or Territory.

(b) Hirers that require a risk assessment prior to conducting their activities in an aquatic facility should conduct their own risk assessment.

4.6 A hirer should be a minimum of 18 years of age, proof of which should be provided where doubt may exist.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, 2005, Human Kinetics, Champaign
- AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sports England Publications, Wetherby
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- The Complete Swimming Pool Reference, 1994, Mosby Lifeline, St Louis

6. PREVIOUS ISSUES

- Guideline GO4 Hire of Facilities, Issue 2, July 1996
- Guideline RS15 Hire of Facilities, Issue 1, August 1991

1. TITLE: POOL COVERS

2. DATE ISSUED: 1 August, 2010 ISSUE: 2

3. PURPOSE: To provide advice and guidance on the use of pool covers for both indoor and outdoor environments.

4. DESCRIPTION:

4.1 Pool covers should be fitted with fastening devices allowing longitudinal fixing to reduce the chance of being dislodged in strong winds.

4.2 (a) Pool covers should not be partially removed to allow lap swimming unless under strict and constant supervision.

(b) Recreational swimming should not be allowed when pool covers have been partially removed.

4.3 Pool covers should never be used as a substitute for appropriate and adequate isolation fencing.

4.4 Installation and removal of pool covers should be carried out in accordance with manufacturers operating instructions and occupational health and safety guidelines.

4.5 (a) Pool covers should be stored and maintained in accordance with the manufacturer's recommendations.

(b) Pool covers and storage frames should not be permanently or temporarily located thereby inhibiting supervisory sightlines or creating a hazard to the public or staff.

(c) Pool covers that are stored on-deck should be stored at least 2m away from the edge of the water (refer FD2 Design of Pool Concourse).

5. REFERENCES / FURTHER INFORMATION

- Guideline FD2 Design of Pool Concourse
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sports England Publications, Wetherby
- The Complete Swimming Pool Reference, 1994, Mosby Lifeline, St Louis

6. PREVIOUS ISSUES

- Guideline GO5 Pool Covers, Issue 1, July 1996

1. TITLE: ELECTRICAL SAFETY

2. DATE ISSUED: 1 August, 2010 ISSUE: 2

3. PURPOSE: To establish guidelines for the safe operation of electrical equipment in swimming pool facilities.

4. DESCRIPTION:

4.1 Work on electrical installations and equipment requires specialist skill. Such work should only be carried out by approved or registered employees or tradespeople.

4.2 Electrical equipment should be kept away from water and swimming pools.

4.3 In situations where it is necessary to use electrical equipment near swimming pools, the following precautions should be taken:

a) The general purpose outlet (GPO) into which electrical equipment is to be connected should be earth leakage protected (e.g. safety switch).
b) The GPO should be installed at least 3.0 metres distance from the nearest pool and at least 1.0 metres above the floor level.
c) Equipment should not be left unattended.
d) Where practicable compressed air operated equipment should be used
e) Electrical cords and equipment should be highlighted and preferably kept clear of concourses to remove any chance of electrocution or injury as a result of a trip or fall.
f) The pool should be vacated by all bathers when electrical equipment is to be used nearby.

4.4 Workers should not use or repair any electrical cord, fixture, terminal box or equipment while standing in water or on a wet concourse.

4.5 (a) Every swimming pool should have an effective system for ensuring faulty equipment is reported to management, and immediately withdrawn from use or effectively isolated until repaired by an appropriately qualified person.

(b) Aquatic facilities should have their electrical equipment “tested and tagged” by an appropriately qualified person on a regular basis as per Australian Standard AS 3760.

4.6 Where electrically powered pool vacuum cleaners are used, advisory signs or sign should be placed in a prominent position around the pool concourse advising people not to enter the water unless the manufacturer's instructions implicitly state otherwise.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, 2005, Human Kinetics, Champaign
- Australian Standard AS/NZS 3000-2007 Electrical Installations, SAI Global, Sydney
- Australian Standard AS/NZS 3760-2003 In-service safety inspection and testing of electrical equipment, SAI Global, Sydney
- Guideline FD2 Design of Pool Concourse
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sports England Publications, Wetherby
- The Complete Swimming Pool Reference, 1994, Mosby Lifeline, St Louis

6. PREVIOUS ISSUES

- Guideline GO6 Electrical Safety, Issue 1, July 1996

1. TITLE: **RISK MANAGEMENT IN AQUATIC AND LEISURE CENTRES**

2. DATE ISSUED: 1 August, 2010 ISSUE: 2

3. PURPOSE: To provide guidance for the successful application of risk management principles in the safer operation of aquatic facilities. Refer to Appendix 4 for guidance on conducting a risk analysis.

4. 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.

5. DESCRIPTION

5.1 It is recommended that facility staff undergo a structured Risk Management analysis of their roles and procedures for all **Supervision Requirements** of patrons in the facility. This should be recorded and reviewed at least annually. (Refer to Appendix 4 Risk Management, GSPO Guideline GO1 and GSPO Guidelines SU1 - 26).

5.2 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. This should be recorded and reviewed at least annually. (Refer to Appendix 4 Risk Management, GSPO Guideline GO1 and GSPO Guidelines TO1 - 12).

5.3 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. This should be recorded and reviewed at least annually. (Refer to Appendix 4 Risk Management, GSPO Guideline GO1 and GSPO Guidelines TO1 - 12).

5.4 It is recommended that all aquatic facilities undergo a structured Risk Management analysis of the activities, equipment, manual handling, confined spaces, working at heights and noise that are or occur at the facility. This should be recorded and reviewed at least annually. (Refer to Appendix 4 Risk Management, GSPO Guideline GO1 and relevant State/Territory Occupational and Health Regulations).

Note: The above recommendations are superseded in States and Territories where relevant legislation requires Risk Management analysis.

6. References / Further Information

- Australian Standard AS/NZS 4360: 2004 Risk management. SAI Global, Sydney.
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- HB 158 – 2002 A guide to the use of AS/NZS 4360, Risk management within the internal audit process. SAI Global, Sydney.
- HB 205-2004 OHS Risk Management Handbook. SAI Global, Sydney.
- HB 246-2004 Guidelines for Managing Risk in Sport and Recreation. SAI Global, Sydney.
- HB436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004. SAI Global, Sydney.
- PAS 65:2004 Management of public swimming pools – General management – Code of practice, British Standards Institution, 2004, London
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW
- Relevant State and Territory Dangerous Goods Acts, Regulations and Codes of Practice.
- Relevant State and Territory Occupational Health and Safety Acts, Regulations and

7. PREVIOUS ISSUES

- Guideline GO7 Risk Management, Issue 1, April 2006

PURPOSE OF THE TECHNICAL OPERATIONS GUIDELINES

The purpose of these guidelines is to provide a guide to the use and storage of chemicals used in the aquatic industry. It is intended to be a **useful first reference only** and does not replace the relevant industry regulations and best practice such as the various State and Territory Dangerous Goods Acts, Regulations and Codes of Practices, Occupational Health and Safety Acts, Regulations and Codes of Practice, Hazardous Substance Acts, Regulations and Codes of Practice, relevant Australian Standards and Material Safety Data Sheets. Used in conjunction with these documents, the Technical Operations Guidelines will be a very useful tool when dealing with Hazardous Substances and Dangerous Goods.

Who Should Read these Guidelines?

These Guidelines should be read by any person responsible for the handling, storage or purchase of Hazardous Substances or Dangerous Goods and any person responsible for the training or supervision of those persons.

What processes are involved in the management of Hazardous Substances and Dangerous Goods?

- Risk Management associated with the storage and handling of Dangerous Goods and Hazardous Substances
- Drafting of Emergency Plans, Manifests and Registers
- Provision of Material Safety Data Sheets (MSDS)
- Ensuring adequate separation between incompatible substances
- Training of staff in the risks and safe handling procedures
- Posting of appropriate signage
- Provision of adequate Personal Protective Equipment (PPE)
- Ensuring that any spillage is contained and disposed of appropriately
- Emphasis on eliminating / reducing the exposure of the public to chemicals

Applications Specific to Aquatic Environment

Generally the sanitation of the water requires a powerful oxidant which may be either chlorine or bromine based and a method to adjust the pH. Other chemicals may be used to supplement the water balance (scale or corrosion activity) within the pool.

Cleaning compounds used may be chlorine or ammonia based.

The storage and handling of such products have risks that may preclude the mixing or close storage with incompatible chemicals. The storage may require spill containment zones or separation zones to isolate one chemical from the other.

Individual site requirements will vary but some of the following bulk chemicals could be on site:

- Sodium Hypochlorite
- Chlorine Gas

- Calcium Hypochlorite
- Bromine based products
- Carbon Dioxide Gas
- Soda Ash
- Sodium Bicarbonate
- Sodium Thiosulphate
- Calcium Chloride
- Cyanuric Acid based products
- Hydrochloric Acid
- Aluminium Sulphate
- Algaecides

The inappropriate mixing or storage of chemicals may cause injury through the release of poisonous gases, fire or explosion.

Uncontained chemical spills may cause environmental damage and possible personal injury.

Equipment used in the handling of the chemicals may be dosing pumps, tanks, solenoid valves, pressure vessels or hand trucks for moving from one area to another.

Safety equipment is always to be considered when handling these chemicals. Safety equipment may include wash down showers and various Personal Protective Equipment (PPE).

In some States, the relevant Acts and Regulations have moved away from being prescriptive in issues like separation distances and instead refer the reader to the relevant Australian Standard. In addition, they require the reader to undertake a Risk Management assessment of their chemical use and storage. The Technical Operations Guidelines reflect the differences in the source documentation from state to state. With issues such as separation distances, where difference existed, the more conservative distance is used in this document.

There is no substitute for a proper Risk Management evaluation of chemical use and storage, and aquatic centres are recommended to undertake this process.

Acknowledgement

The Royal Life Saving Society Australia would like to acknowledge the contribution made to this document by the Victorian Aquatic Industry Council (VAIC) and in particular, the Standing Committee for Facility Management.

1. TITLE: OCCUPATIONAL HEALTH & SAFETY

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT This Section discusses the application of the various State and Territory Occupational Health and Safety Acts.

The governing legislation for this in each state are the different Occupational Health and Safety Acts. Under the umbrella of the OH & S acts come the Regulations, eg 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 document does not replace the applicable Occupational Health and Safety Acts, Regulations and Codes of Practice in any way. This Section gives a summary of the obligations of the employer and the employee in relation to occupational health and safety.

4. EMPLOYER'S REQUIREMENTS

4.1 Under the various Occupational Health and Safety Acts, employers are required to fulfil several obligations, all of which fall under the umbrella of providing a safe workplace and one that is without risks to health as far as practicable. Employers should fulfil their Duty of Care by:

a) Providing and maintaining safe plant and systems of work, including those in connection with the use, handling, storage and transplant of plant and substances.

b) Providing adequate facilities for the welfare of employees.

c) Providing information, instruction, training and supervision to employees including inductions on commencement of employment, in relation to any workplace procedures and hazards. Accurate records of the instruction, training and supervision provided should also be kept.

d) Keeping accurate records relating to the health and safety of the employees of the employer.

e) Ensuring that any employee working in a hazardous environment is fully informed of the risk.

4.2 The various Occupational Health and Safety Acts also require that any independent contractor engaged by the employer and any employees of that contractor, are defined as employees for the purpose of the Acts. The duties of the employer extend to such an independent contractor and the contractor's employees in relation to matters over which the employer:

a) Has control; or

b) Would have had control but for any agreement between the employer and the independent contractor to the contrary.

4.3 The duty of care expected of an employer towards their employees also extends to other people so that, customers, visitors and the general public, are not endangered by the conduct of the business. Employers may expose themselves to a public liability claim should the general public and visitors come into contact with chemicals.

5. EMPLOYEE REQUIREMENTS

5.1 All employees also have responsibilities under the various State and Territory Occupational Health and Safety Acts. An employee is expected to:

a) Take reasonable care for their own safety and for the safety of anyone who may be affected by their actions or omissions.

b) Co-operate with their employer with respect to any actions taken by the employer to comply with the Acts, ie use equipment provided for health and safety purposes and obey reasonable instruction that the employer may give in relation to health and safety in the work place.

5.2 An employee is at risk of prosecution if they fail to comply with the expectations of the various Occupational Health and Safety Acts.

6. DESIGNATED WORK GROUPS

6.1 Designated work groups can be initiated by either an employee or the employer and are determined by negotiations between the employer and the employees. In determining the composition of the designated work groups, the following factors must be taken into consideration:

a) The number of employees at the workplace.

b) The nature of each type of work performed at the workplace.

c) The number and grouping of employees who perform the same or similar types of work.

d) The areas at the workplace where each type of work is performed.

e) The nature of any hazards at the workplace.

f) Any overtime or shift working arrangements.

g) The employer should ensure a written list of the designated work groups at the workplace is prepared and kept up to date.

h) The list of the designated work groups is displayed in a prominent place at the workplace.

6.2 Each designated work group may elect one of its members as the group's health and safety representative. These health and safety representatives have the power to inspect the workplace of their designated working group immediately on any incident or potential incident or at any time after giving reasonable notice to the employer.

6.3 Due to the small number of employees and the transient nature of staff at some aquatic facilities, it may be impractical to have a designated work group. One solution may be to have a Designated Safety Officer that has been appointed by management. Before appointing a Designated Safety Officer, consult with the relevant WorkCover Authority in your State or Territory.

7. HEALTH AND SAFETY COMMITTEES.

7.1 When requested by a health and safety representative, or when required to do so by regulation, an employer must establish a health and safety committee (within three months from the date of request). At least half of the members of the committee are to be current employees.

The function of a health and safety committee is to:

a) Facilitate co-operation between an employer and the employees in instigating, developing and carrying out measures designed to ensure the health and safety at work of the employees.

b) Formulate, review and disseminate to the employees the standards, rules and procedures relating to health and safety which are to be carried out or complied with at the workplace.

c) Subject to this action, health and safety committees shall meet at intervals not exceeding three months in duration.

d) A meeting of the health and safety committee can be held at any time at the request of a health and safety representative, at the request of a prescribed number of employees or at the request of a majority of the employees at any workplace.

8. NON-COMPLIANCE

Inspectors from the various State and Territory Workcover Authorities can issue Improvement Notices and Prohibition Notices. An Improvement Notice contains written directions to a person to remedy a breach of the Act within a specified time. A Prohibition Notice is a written direction prohibiting any activity that will, or is likely to, involve an immediate risk to the health and safety of

any person. Breach of these notices (including the Provisional Improvement Notice given by a health and safety representative) may lead to prosecution under the various Acts.

If found guilty of a breach of the various Acts, an individual or company may be fined and there is the possibility of custodial sentences for individuals.

9. FURTHER INFORMATION

Further information can be gained from the various Workcover Authorities in each State and Territory. Please note that the postal address is for the capital city in each State and Territory. Further contact details are available on the relevant web sites.

Australian Capital Territory

Agency: ACT Workcover
Web site: www.workcover.act.gov.au
Email: workcover@act.gov.au
Phone: 02 6205 0200
Postal: PO Box 224, Civic Square, ACT, 2608

New South Wales

Agency: Workcover NSW
Web site: www.workcover.nsw.gov.au
Phone: 02 0431 5000
Postal: Locked Bag 2906, Lisarow, NSW, 2252

Northern Territory

Agency: NT Worksafe
Web site: www.worksafe.nt.gov.au
Email: ntworksafe.deet@nt.gov.au
Phone: 1800 019 115
Postal: GPO Box 4821, Darwin, NT, 0801

Queensland

Agency: Workcover Queensland
Web site: www.workcover.qld.gov.au
Email: info@workcoverqld.com.au
Phone: 1300 362 128
Postal: GPO Box 2459, Brisbane, Qld, 4001

South Australia

Agency: Workcover Corporation of South Australia
Web site: www.workcover.com
Email: info@workcover.com

Phone: 131 855
Postal: GPO Box 2668, Adelaide, SA, 5001

Tasmania

Agency: Workcover Tasmania
Web site: www.workcover.tas.gov.au
Email: wstinfo@dier.tas.gov.au
Phone: 1300 366 322
Postal: Workplace Standards Tasmania, PO Box 56, Rosny Park, Tas, 7018

Victoria

Agency: Victorian Workcover Authority
Web site: www.workcover.vic.gov.au
Email: info@workcover.vic.gov.au
Phone: 1800 136 089
Postal: Level 24, 222 Exhibition Street, Melbourne, Vic, 3000

Western Australia

Agency: Workcover WA
Web site: www.workcover.wa.gov.au
Email: postmaster@workcover.wa.gov.au
Phone: 1300 794 744
Postal: 2 Bedbrook Place, Shenton Park, WA, 6008

Federal (please note that the Workcover authority in each state is the governing body and the NOHSC is included for general reference only).

Agency: National Occupational Health and Safety Commission
Web site: www.nohsc.gov.au
Email: info@nohsc.vic.gov.au
Phone: 02 6279 1000
Postal: GPO Box 1577, Canberra, ACT, 2601

1. TITLE: EMERGENCY PLANS

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT

Each aquatic facility at which there are Dangerous Goods or Hazardous Substances will need to develop an Emergency Plan for these chemicals.

4. CONTENTS

The Emergency Plan should contain (but is not limited to) the following:

a) A list of all dangerous goods and hazardous substances, the maximum amounts and their storage locations on site. This is sometimes called a chemical register. It should also contain all the MSDS documentation. It should be located in two places; one near the chemicals stored and one remote from this area if the area becomes inaccessible.

b) A site plan.

c) How to raise the alarm.

d) Responsibilities of key personnel.

e) A plan to **contain** any spills for all the contents of any chemical stored and used on site.

f) A list of (and locations of) equipment needed to contain chemical spills, including any Personal Protective Equipment (PPE) that may be required.

g) A plan to **clean up** spills for each chemical. These plans may involve emergency services or other organisations and should only involve aquatic centre staff in the clean up if it is safe to do so.

h) A list of (and locations of) equipment needed to clean up chemical spills that have been determined safe for aquatic centre staff to deal with. This list must include personal protective equipment.

i) A plan to deal with an overdose of any chemical into the swimming pool water.

j) A plan to deal with fire.

k) A plan to deal with an uncontrolled reaction.

l) A list of phone numbers for the various authorities and responsible persons to be notified in the event of an emergency, eg. fire services, ambulance service, Poisons Information Centre, water authority, environmental protection agencies, local government etc.

4.1 The Emergency Plan needs to be available to all staff who are dealing with chemicals.

4.2 The Emergency Plan should be practiced at least annually so that the relevant staff are fully conversant with the plan and the equipment. Results of the practice of the Emergency Plan should be analysed with a focus on continuous improvement.

4.3 All staff who deal with chemicals and any other staff as required, need to be trained in the Emergency Plan. This training needs to be documented, showing details of what was covered, who attended and when it was held.

4.4 The Emergency Plan for chemical spills etc should be an integral part of the aquatic facilities Emergency Action Plan.

Note: This Guideline should be cross-referenced with guideline GO2 Emergency Action Plan.

1. TITLE: DANGEROUS GOODS OR HAZARDOUS SUBSTANCES

2. DATE ISSUED: 1 July 2005 ISSUE: 1

***3.* ABSTRACT**

Dangerous Goods are those substances that have an immediate chemical or physical effect such as fire or corrosive action. Hazardous Substances relate to those substances that have a health effect.

4. DANGEROUS GOODS

4.1 Dangerous Goods are those substances that may be corrosive, flammable, explosive, toxic, oxidising or water reactive.

4.2 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.

5. HAZARDOUS SUBSTANCES

5.1 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.

5.2 The types of chemicals used for the disinfection of water within the aquatic industry usually fall into the category of Hazardous Substances. They also may be classified as Dangerous Goods.

6. 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.

7. APPLICATIONS SPECIFIC TO THE AQUATICS INDUSTRY

7.1 Some typical chemicals that may be found in common use in the aquatic environment may include: (see over)

Table TO3.1 Chemicals Commonly Used by the Aquatics Industry

Chemical	Common Name	Hazard	Hazardous Substances Classifications	Dangerous Goods Classifications
Sodium Hypochlorite	Hypo	Strong Oxidizing Agent	Corrosive	8
Calcium Hypochlorite	Dry Chlorine	Strong Oxidizing Agent	Corrosive	5.1
Bromine (BCDMH or Sodium Bromide)	Bromine	Strong Oxidizing Agent	Corrosive	5.1
Chlorine Gas		Strong Oxidizing Agent	Toxic	2.3 (Subs 5.1)
Calcium Chloride		Not Classified	Irritant	N/A
Hydrochloric Acid	Muriatic Acid	Corrosive	Very Corrosive	8
Isocyanuric Acid	Cyanuric Acid	Mild Acid	N/A	N/A
Aluminium Sulphate	Alum	Mild Acid	N/A	N/A
Sodium Carbonate	Soda Ash	Irritant	Irritant	N/A
Sodium Bicarbonate	Bicarb	Mild Alkali	N/A	N/A
Sodium Thiosulphate	Thio	Not Classified	N/A	N/A
Sodium Bisulphate	Dry Acid	Corrosive	Causes Burns	8
Poly Aluminium Sulphate	PAC	Mild Alkali	N/A	N/A
Carbon Dioxide	CO2	Oxygen Displacing	N/A	2.2
Ozone	Ozone	Strong Oxidising Agent	Highly Irritant	N/A

1. TITLE: REGISTERS AND MANIFESTS

2. DATE ISSUED: 1 July 2005 ISSUE: 1

***3.* ABSTRACT**

A Register of Hazardous Substances is required to be held at each aquatic centre. If the quantities kept exceed the quantities listed in the various Dangerous Goods Regulations, then a Manifest is also to be prepared and maintained.

This provides the emergency services authority with information on the quantity, type, and location of Dangerous Goods.

4. REGISTER OF HAZARDOUS SUBSTANCES

4.1 You must make certain that all Hazardous Substances used in your workplace are identified and listed on a Register. The Register is simply a list of the product names of all the Hazardous Substances used in the workplace accompanied by the current MSDS for each of these substances.

The Register needs to be updated when:

a) A new Hazardous Substance is introduced into the workplace.
b) The use of existing Hazardous Substances is discontinued.
c) A revised MSDS is provided by the manufacturer, importer or supplier.

4.2 A Register should not be confused with a Manifest. A Manifest is required for certain quantities of Dangerous Goods under the various State and Territory Dangerous Goods (Storage and Handling) Regulations. The primary purpose of a Manifest is to provide information (such as site maps and the types and quantities of Dangerous Goods stored) to the emergency services authority in the event of an emergency.

4.3 The Register is required for **all** Hazardous Substances under the various Occupational Health and Safety (Hazardous Substances) Regulations. The Register is designed to provide you and your employees with a source of information to assist in the management of Hazardous Substances in the workplace. You should keep both a Register and a Manifest.

5. MANIFESTS

5.1 You must ensure that a Manifest is prepared when the quantity of Dangerous Goods exceeds the quantities listed in the various Regulations. Below, in Table 2, is a **summary** of those quantities and this should be used as a guide only. For detailed quantities,

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

Table TO4.1 Dangerous Goods Manifest Quantities

Class	Packing Group	Manifest Quantity
2.2 (**Excludes** subsidiary risk 5.1)	N/A	10,000L
2.3	N/A	500L
3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1 or 8	I	500kg or L
	II	2,500kg or L
	III	10,000kg or L

5.2 The principal purpose of the Manifest is to provide the emergency services authority with the information on the quantity, type and location of Dangerous Goods stored and handled on the premises, to enable them to respond appropriately if called to an incident.

5.3 The Manifest must be kept on the premises in a place that is easily accessible to the emergency services authority. It should be located near the Outer Warning Placard at the front of the premises, unless otherwise agreed with the emergency services authority. It should be housed in a holder of substantial weatherproof construction.

The Manifest must include the following information:

a) The name and contact details of the occupier of the premises.
b) The address of the premises.
c) The date when the Manifest was prepared or last amended.
d) Contact information for at least 2 people who may be contacted in the event of an incident.
e) A summary list of the Classes and Packing Groups (if any) of the Dangerous Goods at the premises.
f) Information about Dangerous Goods stored in bulk in other than intermediate bulk containers (IBC).
g) Information about packaged Dangerous Goods in IBCs.
h) Information about dangerous goods in manufacture.
i) Dangerous Goods in transit.
j) A plan of the premises.

5.4 The Manifest must be revised when there is a change in any of the above information.

Note: A sample Manifest form is attached in Appendix A.

6. PACKING LIMITS

6.1 Dangerous Goods (other than Class 1, 2 and 7) are assigned to Packing Groups. The Packing Groups are classified according to the degree of risk the goods present during transportation.

Great Danger	=	Packing Group 1
Medium Danger	=	Packing Group 2
Minor Danger	=	Packing Group 3

6.2 Assignment to a Packing Group will depend on the class and the Subsidiary Risks of the goods and on the nature of the physical hazard presented by the goods.

6.3 If the goods present multiple hazards then they are assigned the category appropriate to the most severe hazard.

6.4 Dangerous Goods are assigned to a Packing Group in accordance to regulation 2.5 in the Australian Dangerous Goods Regulations.

Table TO4.2 Examples of Chemical Packing Groups Specific to the Aquatics Industry

Chemical	Packing Group
Sodium Hypochlorite (Hypo)	Packing Group 3
Calcium Hypochlorite (Dry Chlorine)	Packing Group 2
Calcium Chloride Flake	Not Classified as a Dangerous Good by criteria of the Australian Dangerous Goods Code = No Packing Group
Chlorine Gas	No Packing Group assigned though is classified as a Dangerous Good by criteria of Australian Dangerous Goods Code
Ozone Gas	No Packing Group assigned due to nature of Ozone – produced and dispersed on site
Sodium Bromide	Packing Group 2
BCDMH	Packing Group 2
Trichloroisocyanuric Acid	Packing Group 2
Dichloroisocyanuric Acid (Sodium Salt)	Packing Group 2
Isocyanuric Acid	Not Classified as Dangerous Goods by criteria of the Australian Dangerous Goods Code = No Packing Group

Hydrochloric Acid	Packing Group 2
Aluminium Sulphate	Not Classified as Dangerous Goods by criteria of the Australian Dangerous Goods Code = No Packing Group
Sodium Bicarbonate	Not Classified as Dangerous Goods by criteria of the Australian Dangerous Goods Code = No Packing Group

7. PLAN OF THE PREMISES

7.1 The purpose of the plan of the premises is to identify the locations, buildings and structures on the site where Dangerous Goods are stored and handled. It should be easy for emergency services personnel to read and access.

7.2 The plan of the premises requires the following information:

a) Locations and identification number or code of:
   i. Bulk containers and bulk storages.
   ii. Storage areas for packaged Dangerous Goods and Dangerous Goods in IBCs.
   iii. Areas where Dangerous Goods are manufactured.
   iv. Areas where Dangerous Goods in transit may be located.

b) Legend for the identification numbers and codes for the above areas.

c) Main entrance and other entry points to the premises.

d) Location of essential fire services including isolation points for fuel and power.

e) Location of the manifest for the premises.

f) Location of all drains on the site.

g) Nature of the occupancy on adjoining sites or premises.

7.2 In addition the following information may be relevant:

a) The location of all buildings, amenities, structures and internal roadways on the premises and their designed uses.

b) Areas of public access adjacent to the site and parking (if any).

c) Public street names adjacent to the premises and evacuation routes.

d) Nature of fences (if any).

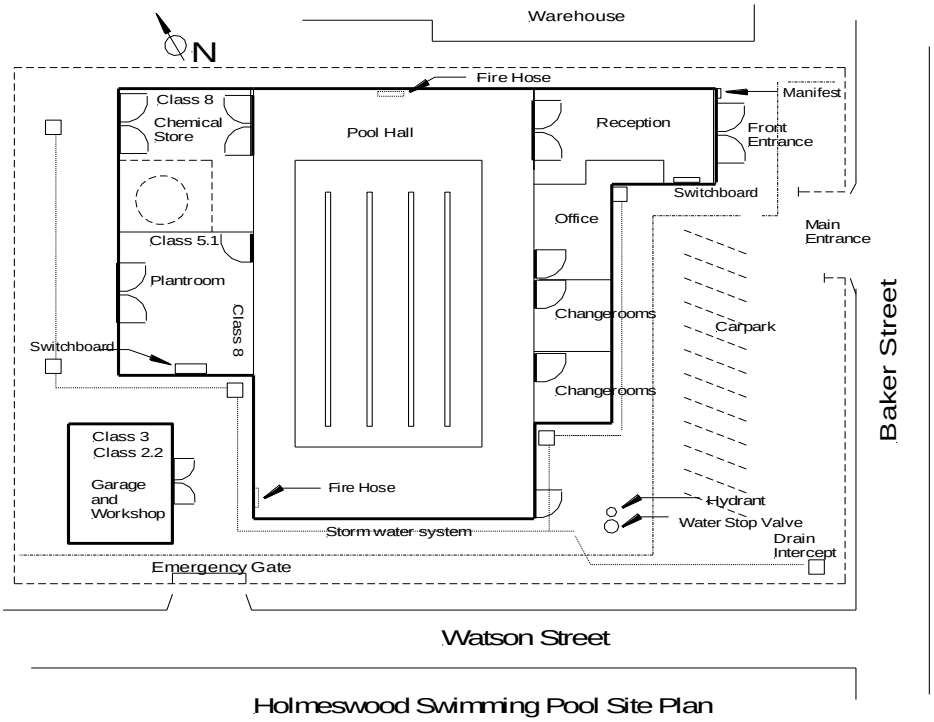


Fig TO4.1 Sample Plan of the Premises

1. TITLE: PLACARDING

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT

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.

4. Regulations require that the appropriate placards be displayed at a workplace if the quantity of the various classes of Dangerous Goods that are kept, exceed a prescribed aggregate amount. Table 4 below (Excerpt from Schedule 2 of Dangerous Goods (Storage and Handling) Regulations 2000 Victoria) describes those quantities of Dangerous Goods that require notification by placarding and the preparation of the Manifest for the site.

5. PLACARDING

5.1 If the prescribed aggregate quantity of any one class of Dangerous Goods at a workplace is exceeded, the occupier must place Hazchem Signs (outer warning notice) at every entrance to the site.

5.2 If a workplace requires Hazchem Signs (outer warning notices) then a Composite Warning Placard is required for all storages of Dangerous Goods.

5.3 Placarding must be placed at:

a) The entrance to any building in which Dangerous Goods are stored.

b) Within the building at the entrance to each room where the Dangerous Goods are stored.

c) Adjacent to external storage where Dangerous Goods are stored.

5.4 Placarding must be of a sufficient size to accommodate each of the labels required. Formatting and dimensions of the placards should be in line with the various State and Territory Dangerous Goods Regulations.

Table TO5.1 Excerpt from Schedule 2 of Dangerous Goods (Storage and Handling) Regulations 2000 (Victoria)

Description of Dangerous Goods	Packing Group	Placarding Quantity	Manifest Quantity	Fire Protection Quantity
Class 2.2 (excludes Subsidiary Risk 5.1)	N/A	5,000L	10,000L	20,000L
Class 2.3	N/A	50L	500L	2,000L
Class 5.1, 5.2 or 8	I	50Kg or L	500Kg or L	2,000KG or L
	II	250KG or L	2,500KG or L	10,000KG or L
	III	1,000KG or L	10,000KG or L	20,000KG or L
	Mixed Packing Groups in a single Class with the quantity of each Packing Group below the specified quantity for the Packing Group	1,000KG or L	10,000KG or L	20,000KG or L
Mixed Classes of Dangerous Goods where none of the Classes, types or Packing Groups (if any) present exceeds the quantities specified for the relevant quantity above	N/A	5,000KG or L The quantity only applies where the Placarding Quantity for an individual Class that is present is 5,000KG or L	10,000KG or L	20,000KG or L

In relation to Table TO5.1 (above), please refer to individual State and Territory legislation.

6. HAZCHEM CODES

6.1 Placarding must comply with the appropriate standards to indicate the required Hazchem Code. The Hazchem Code provides advisory information to the emergency services to enable them to take appropriate action in dealing with a chemical situation.

Table TO5.2 Example Hazchem Code: *Chlorine Gas 2XE*

Hazchem Code	Meaning
2	Indicates that emergency services should use water fog to combat the spill.
X	Indicates that the emergency services should use full protective equipment including breathing apparatus. They should contain the Dangerous Goods on site and seek to avoid spillage into drains and waterways.
E	Indicates that the Officer in Charge of the emergency should consider an evacuation of the site.

Table TO5.3 Hazchem Code Interpretation

Number		Meaning	
1		Water Jets	
2		Water Fog	
3		Foam	
4		Dry Agent	
First Letter			
P	V	Full Protective Clothing *	Dilute
R		Full Protective Clothing *	Dilute
S	V	Breathing Apparatus	Dilute
S	V	Breathing Apparatus for Fire Only	Dilute
T		Breathing Apparatus	Dilute
T		Breathing Apparatus for Fire Only	Dilute
W	V	Full Protective Clothing *	Contain
X		Full Protective Clothing *	Contain
Y	V	Breathing Apparatus	Contain
Y	V	Breathing Apparatus for Fire Only	Contain
Z		Breathing Apparatus	Contain
Z		Breathing Apparatus for Fire Only	Contain
Second Letter			
E		Consider Evacuation	

Note:

V= Danger of violent reaction or explosion

* = Full protective clothing includes Breathing Apparatus

7. PLACARD EXAMPLES

Fig TO5.1 Composite Warning Placard for Goods Stored in Packages*

* Please note that composite warning signs are no longer required to show the HAZCHEM code (4WE in this example), just the Dangerous Goods diamonds. Existing signs that have the HAZCHEM code as shown are still compliant though when they are replaced they should meet the new standard.

Fig TO5.2 Composite Warning Placard (Bulk Container)

Fig TO5.3 Hazchem Placard (Outer Warning Notice)

Fig TO5.4 Danger Placard

1. TITLE: MATERIAL SAFETY DATA SHEETS (MSDS)

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT

Under the Occupational Health and Safety (Hazardous Substances) Regulations, manufacturers and importers are responsible for determining whether a substance they supply for use in a workplace is hazardous. If the substance is classified as hazardous, a Material Safety Data Sheet (MSDS) must be prepared and made available to purchasers of the substance.

4. The MSDS provides the information about the hazards (health effects) of the substance and how to use it safely. It also helps you to identify, assess and control risks associated with the use of the substance in your workplace.

4.1 An MSDS must contain the following information:

a) Date of preparation or review.
b) Manufacturer or importer details, including Australian address and contact telephone numbers.
c) Product name.
d) Chemical and physical properties of the substance.
e) Proportion (or proportion ranges) of the ingredients in the substance.
f) Health hazard information.
g) First aid information.
h) Precautions for safe use.
i) A statement that the substance is a hazardous substance.

4.2 You have a right to expect that the information contained in an MSDS is current, accurate and easily understood by a lay person. It should take into account all the normal uses of the substance. If you are not happy with the MSDS supplied, raise your concerns with the manufacturer or importer.

4.3 The Regulations also require you to obtain the most recent version of the MSDS on or before the first time the hazardous substance is supplied for use in your workplace. Only the MSDS prepared by the manufacturer or importer of the substance are acceptable. Generic or third party MSDS are not acceptable.

4.4 If an MSDS gets revised or updated (required every 5 years), the manufacturer or importer is required to supply the revised or updated MSDS on the next delivery of that hazardous substance.

4.5 Suppliers who are retailers or retail warehouse operators are not required to provide an MSDS for Hazardous Substances that are supplied in consumer packages. Therefore, if you purchase Hazardous Substances from a retailer, you need to obtain an MSDS from an upstream supplier such as the manufacturer or importer of the substance. (Note, the upstream suppliers contact details should be on the label.)

4.6 The MSDS must be readily accessible to any employee who could be exposed to a Hazardous Substance. Copies of the MSDS should be kept in a location convenient to the work area in which the substance is used. Copies should also be kept in a central and remote area from the storage of the hazardous substance in case of a spill etc. All employees likely to be exposed to a Hazardous Substance must know where to find the MSDS. They are also to receive information, instruction and training to ensure that they understand the purpose of the MSDS and can use it effectively.

4.7 You must not alter the information in an MSDS prepared by the manufacturer or importer. Additional information such as specific workplace information, must be appended to the MSDS and marked clearly that it is not part of the original MSDS.

1. TITLE: SEPARATION DISTANCES

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. **ABSTRACT**

Regulations require that the risk to personnel, property or exposure to other Dangerous Goods is minimised by separation. Separation distances are influenced by a number of factors including the types and quantities of the Dangerous Goods, the use and processes applied to the Dangerous Goods in the work area and any controls in place to minimise the risks.

4. **SEPARATION**

4.1 Separation can also be explained by some common sense approaches:

a) Never store different chemicals together.
b) Never mix chemicals.
c) Always wear the appropriate Personal Protective Equipment.
d) Always keep liquids away from dry chemicals.
e) Always ventilate the storage areas.
f) Always check where gases accumulate.
g) Always check the MSDS for each chemical.

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

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

- AS/NZS 2927:2001 The storage and handling of liquefied chlorine gas
- AS 4326 – 1995 The storage and handling of oxidizing agents
- AS 1894 – 1997 The storage and handling of non-flammable cryogenic and refrigerated liquids
- AS 4331 – 1995 The storage and handling of gases in cylinders
- AS 3780 – 1994 The storage and handling of corrosive substances

The information contained in these sources is quite different. For example in Western Australia, the Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992 describes specific distances whereas in Victoria, the Dangerous Goods (Storage and Handling) Regulations 2000 refer to the Australian Standards for the relevant Dangerous Good with the following clarification:

"Distances given in the various Standards are designed to provide safety with most possible combinations of goods of the classes concerned. Because for example some Class 8 react dangerously with some Class 5.1, distances given assume that all goods of these classes are incompatible, even though this can be demonstrated to be false with some combinations.

Therefore, for many combinations lesser distances may be determined by risk assessment rather than by following minimum separation distances set out in Appendix 3 documents (list of relevant Australian Standards). For this to be effective, however, the assessment must be based on the specific hazards of the actual dangerous goods being stored and handled rather than on Class considerations only."

Note: The information in this section is of a general nature for advice only and is taken from the various sources indicated above. For specific information, please refer to your relevant State or Territory Regulations.

5. DEFINITIONS

5.1 Australian Standard AS/NZS 2927:2001 The Storage and Handling of Liquefied Chlorine Gas defines a **Protected Place** as:

a) "A dwelling, place of worship, public building, school or college, childcare facility, hospital, theatre, or any building or open area in which people are accustomed to assemble, whether within or outside the property boundary of the installation;

b) A factory, workshop, office, store, warehouse, shop or building where people who are not associated with the operation of the chlorine installation are employed;

c) A ship lying at permanent berthing facilities;

d) Any storage facility for dangerous goods that exceeds minor storage quantities and is outside the property boundary of the installation."

5.2 Australian Standard AS/NZS 2927:2001 The Storage and Handling of Liquefied Chlorine Gas defines a **Public Place** as:

"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".

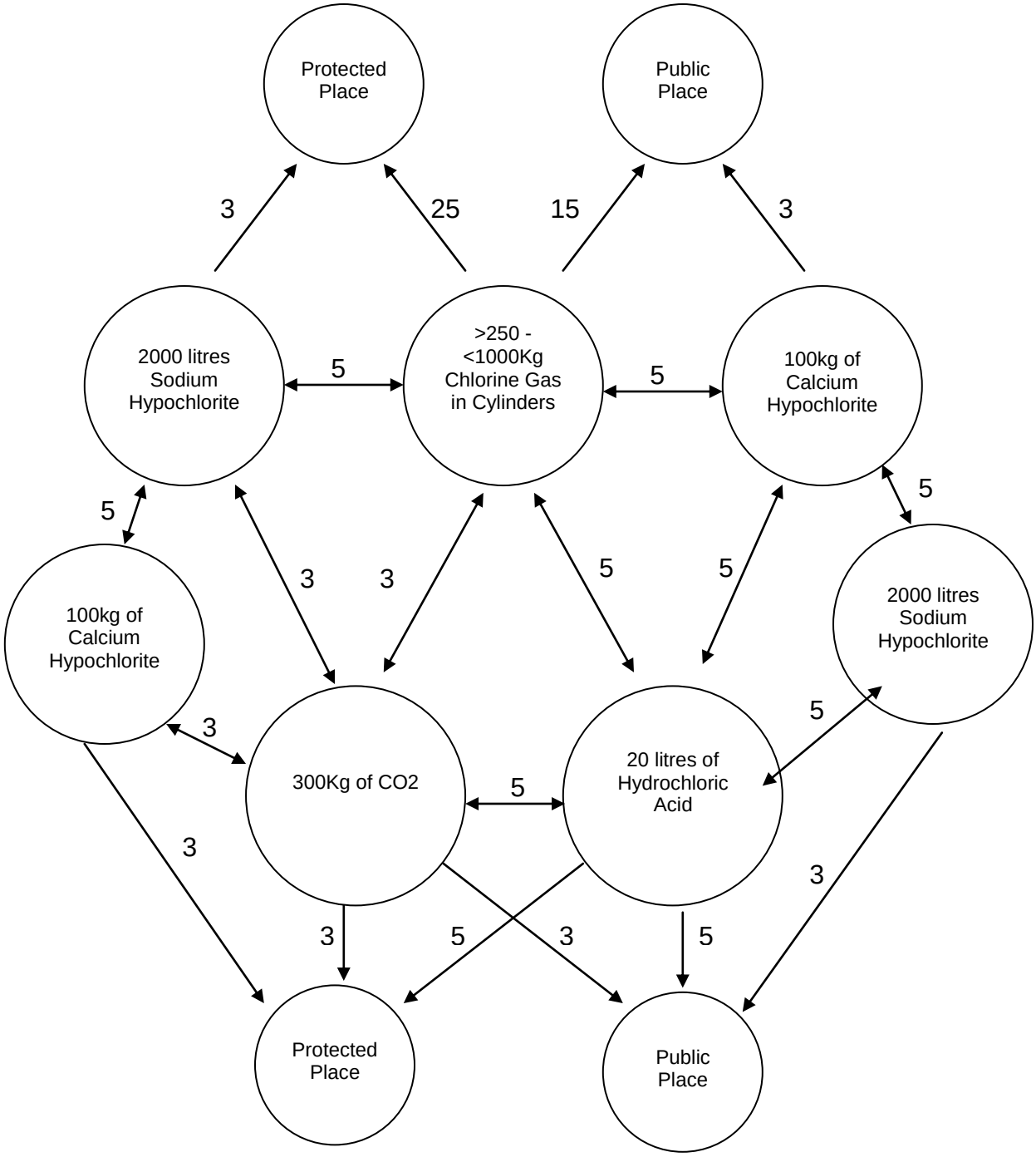


Fig TO7.1 Diagrammatic Representation of Separation Distances for a Typical Aquatic Centre. Distances are in (m) metres.

Table TO7.1 Separation Distances

All distances are in metres (m).

	Hypo	Dry Chlorine	Chlorine Gas	Hydrochloric Acid	CO2	Protected Place	Public Place
Hypo	N/A	5	5	5	3	3	3
Dry Chlorine	5	N/A	3	5	3	3	3
Chlorine Gas	5	5	N/A	5	3	25	15
Hydro-chloric Acid	5	5	5	N/A	5	5	5
CO2	3	3	3	5	N/A	3	3
Protected Place	3	3	25	5	3	N/A	N/A
Public Place	3	3	15	5	3	N/A	N/A

For aquatic facilities using chlorine gas, the following also applies (from AS/NZS 2927:2001 The storage and handling of liquefied chlorine gas):

"From any swimming pool or area to which the public have access (e.g. dressing rooms, toilets, first aid rooms, club rooms, foyers, kiosks, grandstands) to

(i) any opening in an installation where cylinders of chlorine are stored – (the separation distance is) at least 15m.

(ii) any opening in an installation where drums or tanks of chlorine are stored – (the separation distance is) at least 25m."

1. TITLE: SPILL CONTAINMENT

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT

All places in which Dangerous Goods are stored must have a spill containment system that will eliminate any risk arising from any spill of the Dangerous Goods.

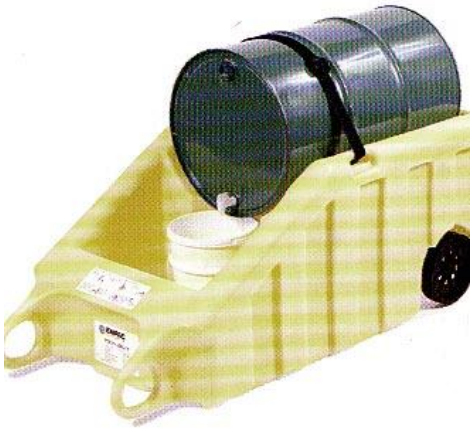


Fig TO8.1 Spill Container

4. SPILL CONTAINMENT

4.1 The various Regulations and Codes of Practice for the Storage and Handling of Dangerous Goods state that you must provide spill containment that will eliminate the risk or reduce the risk so far as practicable from any spill or leak of solid or liquid Dangerous Goods / Hazardous Substances. This is required for every area where Dangerous Goods are stored and handled. All spillages or leaks of Dangerous Goods should be contained within the premises.

4.2 Factors that determine the extent of spill containment include:

a) The nature of the Dangerous Good / Hazardous Substance - if solid, will it melt in a fire, if liquid, is it mobile or viscous?

b) The quantity of the Dangerous Goods / Hazardous Substances.

c) The size of the largest container or largest spill.

d) The consequences of a spill.

e) Whether or not it is necessary to provide for the management of firewater or other extinguishing materials for an incident.

4.3 Spill containment for liquids may be achieved by:

a) Providing drains to a purpose built on-site catchment (for example, an interceptor or remote impounding basin).

b) Grading the surface so that all spills are contained by the contours.

c) Bunding the area to form a compound.

d) Double walled containers.

e) Enclosing a tank with a partial or full height bund.

Figure TO8.2 Spill Container

5. DESIGNING SPILL CONTAINMENT

5.1 You should ensure that:

a) The spill containment system is impervious and can hold the Dangerous Goods until the spill is cleaned up.

b) The risks associated with the operation of the containment system are part of the design consideration.

c) The materials used in construction or for absorption are:

i. compatible with the Dangerous Goods and other materials in the vicinity,

ii. appropriate to avoid contamination of ground water or soil.

d) The capacity of any compound is sufficient for the volume of liquid (including a margin for fire water) to be contained.*

e) Separate spill containment is provided where the Dangerous Goods that are not compatible are kept within the one storage area.

f) Absorbent materials, barriers and booms are provided where necessary to contain a spill outside areas where physical containment is provided or to assist in clean-up.

g) Contaminated firewater can be removed during an incident if needed.

h) Means are available for removing any rainwater that may accumulate in the area.

i) If the design and location of your spill containment system may affect emergency services operating procedures you should consult with the emergency services authority.

5.2 Specifically with regard to the aquatic industry:

a) Bulk Hypo tanks must be installed within an impervious spill container.

b) Dry chemicals must be stored within a spill container.

c) Tubs or carboys of different chemical types must be stored within isolated spill containment zones.

d) The spill container should be capable of holding the capacity of the individual container plus 10 %.

1. TITLE: CREST LOCUS LIMIT

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT

When installing a bulk tank facility, the spill containment perimeter must be calculated considering the capacity of the tank and the distance from the top edge of the tank. The perimeter distance allows for a jet of chemical spurting under pressure from the tank and estimates the maximum travel of the jet. This distance is called the crest locus limit.

4. CREST LOCUS LIMIT

4.1 The crest locus limit describes the minimum separation distance between a container and the edge of the spill container. This can be calculated using the trigonometric formula:

$$\textbf{Tan } \theta = 0.5$$

(Where θ is a minimum of 26.5 degrees between the height of the container and the distance out to the spill container.)

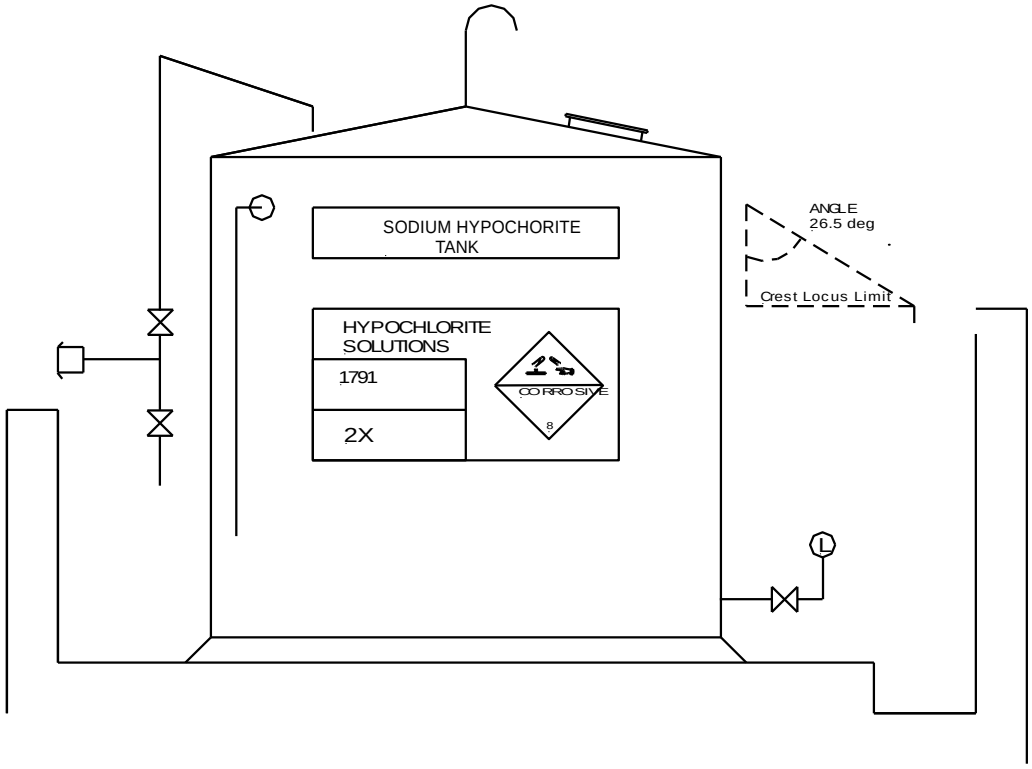


Fig TO9.1 Tank Layout

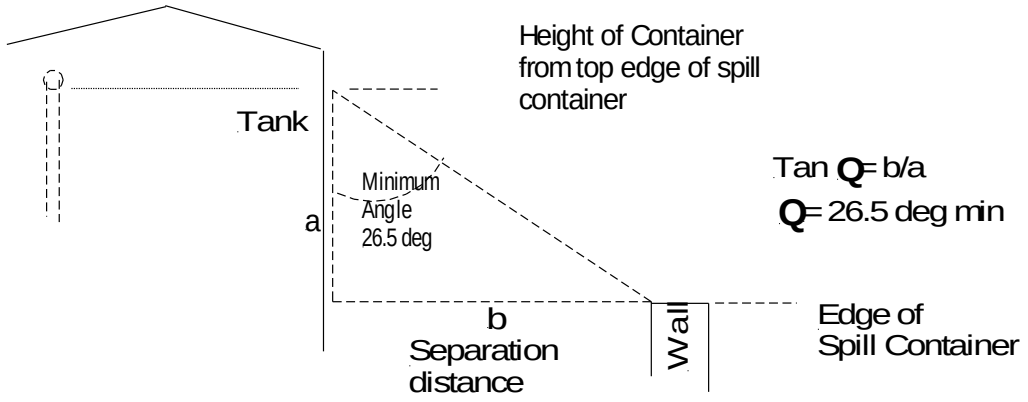


Fig TO9.2 Crest Locus Limit

5. BULK STORAGE SYSTEM

5.1 The bulk storage system must comply with Dangerous Goods regulations. Bulk chemical suppliers also produce guidelines for the customer to meet. Certain chemical suppliers will inspect facilities prior to delivery to ensure that their Occupational Health and Safety obligations to the drivers are met.

Below is a diagram of those items that make up a typical installation.

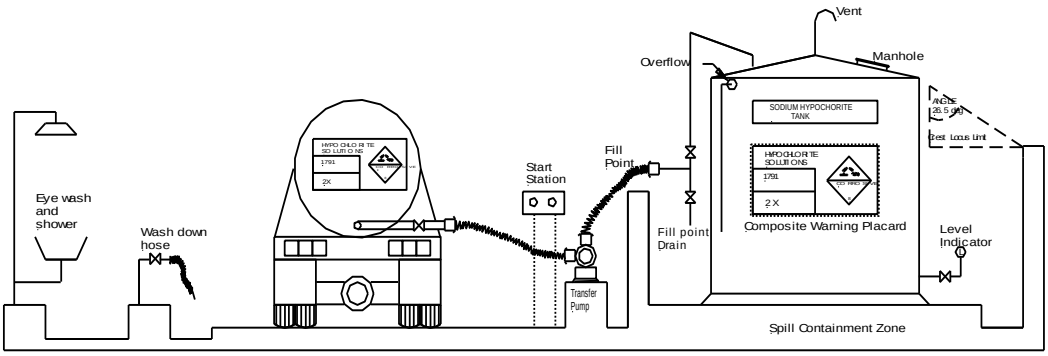


Fig TO9.3 Bulk Storage System

1. TITLE: OTHER SIGNAGE FOR PLANTROOMS

2. DATE ISSUED: 1 July 2005 ISSUE: 1

***3.* ABSTRACT**

There are requirements for signs in an aquatic centre's plant room in addition to the relevant HAZCHEM placarding. These include signs for Personal Protective Equipment (PPE), pipe markers and safety signs.

4. PERSONAL PROTECTIVE EQUIPMENT (PPE)

4.1 Under the various State and Territory Occupational Health and Safety and Dangerous Goods Acts and Regulations, an employer must provide Personal Protective Equipment (PPE) that is suitable for use with the Dangerous Goods and Hazardous Substances that are stored or handled at the workplace and for any other work practice. The employer is also required to ensure that the PPE is maintained in a clean and serviceable condition.

4.2 The employer must provide suitable training for the employee in those work practices that involve Dangerous Goods and those that require the use of PPE. Part of this training must be the correct use of the PPE that is required for each and every work practice.

Examples of PPE that may be required include (but are not limited to):

a) Gloves for protection against chemicals.
b) Gloves for protection against heat.
c) Eye Goggles.
d) Face Shield.
e) Dust Mask.
f) Full Respiratory Mask.
g) Ear Muffs.
h) Safety Boots.
i) Boots for protection against chemicals.
j) Apron / Overalls.
k) Hard Hat.

4.3 The PPE should be stored, ready to be used, at a location where it is accessible to the employee before commencement of the required work. This generally entails that the PPE would be situated at the entrance to a plant room or just inside.

5. PPE SIGNAGE

5.1 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. The location of the signage should ensure that the sign is visible, all messages are legible and so that they will attract the attention of those concerned. This means that they should be located as close as practicable to the observer's line of sight. For a standing adult, this will be 5 degrees up or down from a point 1500mm above floor level, in front of the observer.

5.2 The PPE signage should also be placed where it allows a person to put on and make use of the PPE before coming into contact with Dangerous Good that the PPE is designed to protect them against.

Table TO10.1 shows a selection of PPE signs that may be applicable at a commercial aquatic centre.

Table TO10.1 PPE Symbols from AS 1319 – 1994 Safety Signs for the Occupational Environment

 Eye protection must be worn	 Full face mask respiratory protection must be worn	 Half face mask respiratory must be worn	 Hearing protection must be worn
 Face protection must be worn	 Hand protection must be worn	 Foot protection must be worn	 Protective body clothing must be worn

Please refer to AS 1319 - 1994 Safety Signs for the Occupational Environment for the design

specifics of these PPE signs.

6. SAFETY SIGNS

6.1 Australian Standard AS 1319 – 1994 Safety Signs for the Occupational Environment provides examples of safety signs which may be applicable.

Table 10.2 shows two signs from AS 1319 that may be applicable in an aquatic industry setting.

Table TO10.2 Prohibition Signage from AS 1319 – Safety Signs for the Occupational Environment

No Smoking

Fire, naked flame and smoking prohibited

6.2 Please refer to AS 1319 - 1994 Safety Signs for the Occupational Environment for design specifics for these Prohibition signs.

6.3 To prevent misinterpretation of a sign, it is important that all signage **does not** have displayed near them any writing or other sign that contradicts, qualifies or distracts attention from the required sign or notice.

7. RESTRICTED ACCESS

7.1 Under the provision of the various State and Territory Occupational Health and Safety Acts and Regulations, access to plant rooms, chemical stores and other possibly hazardous locations should be restricted to staff only. The signs should say “Staff Only” or “Restricted Access” and be compliant with AS 1319 - 1994 Safety Signs for the Occupational Environment.

1. TITLE: COLOUR CODES FOR CHEMICALS

2. DATE ISSUED: 1 July 2005 ISSUE: 1

3. ABSTRACT

Chemicals that are being transported via pipes, conduits or ducts, need to be easily and quickly identified. As they are no longer in their storage containers, they are no longer labelled for identification. Once a chemical is not identified, there exist risks in regards to handling and or usage of this chemical. To counteract this problem, all pipes etc that carry chemicals in a plant room must be clearly identified in accordance with AS 1345 Identification of the Contents of Pipes, Conduits and Ducts.

AS 1345 Identification of the Contents of Pipes, Conduits and Ducts introduces a system of colour coded labelling for pipes, conduits and ducts that contain chemicals.

4. BASE IDENTIFICATION COLOUR

4.1 The objective of the base identification colour is to provide immediate information as to the contents of the pipe, conduit or duct in broad terms.

Table TO11.1 Pipe Identification Colours and their Uses

Colour name and basic identification	Applications	Exclusions
Green - Water	• Drinking water • Waste water • Cooling water, including sea water • Storm water • Hydraulic power supply • Recycled water	Sewage, and other dangerously polluted waste water
Silver – Grey - Steam	• Live steam • Process steam • Exhaust steam • Space heating steam	

Brown - Oils, flammable and combustible liquids	• Fuel and lubricating oils • Animal and vegetable oils for food processing • Petrol, diesel and other light fraction fuels • Other flammable or combustible liquid substances	Liquefied gases under pressure
Yellow Ochre - Gases	• Fuel gases • Process gases • Liquefied gases under pressure • Pneumatic transport of particulate solids • Exhaust gases and fumes • Medical gases	Air Highly acid or alkaline gases.
Violet - Acids and alkalis	• All corrosive liquids and gases	
Light Blue – Air	• Compressed air • Instrument air • Vacuum • Ventilation • Pneumatic conveyor	
Black - Other liquids	• Chemical mixtures in water or organic solvent • Liquid foodstuffs • Sewage, organic waste • Chemical and process wastes	Corrosive materials Flammable or combustible material
Red - Fire services	• Dedicated water, foam, other fire extinguishing supply lines	Electrical supply Communication circuits
Orange - Electrical power	• Electrical supply circuits	Extra-low voltage circuits
White - Communications	• Telephone and other communication circuits • Extra-low voltage supply	

Table TO11.2 Pipe Colour Codes specific to the aquatics industry

Chemical	Colour Code
Sodium Hypochlorite	Violet
Water	Green
CO2	Yellow
Chlorine Gas	Violet
Ozone Gas	Violet

1. TITLE: PIPE MARKERS

2. DATE ISSUED: 1 July 2005 ISSUE: 1

Fig TO12.1 Pipe Markers

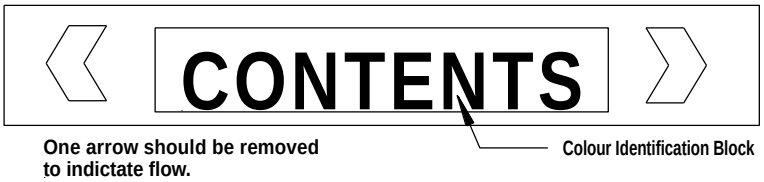
3. PIPE MARKERS

3.1 A pipe marker can be either a rectangular label which can be attached to the pipe, or information sign-written onto the pipe. The words shall indicate the contents of the pipe and if required, a particular hazard associated with that pipe that needs to be in black or white lettering.

3.2 The background colour, in a block large enough to contain the lettering should be the base identification colour for the contents of the pipe, and should have a contrasting border.

3.3 The marker should also contain a chevron or an arrow to indicate flow direction if applicable.

3.4 For design, colour and sizing specifications and location criteria, please refer to AS 1345 Identification of the contents of pipes, conduits and ducts.



Typical Pipe Marker

Fig TO12.2 Pipe Marker Layout.

(Chevrons and colour identification block are unique to product type.)

Appendix A – Sample Manifest Form

DANGEROUS GOODS AND COMBUSTIBLE LIQUIDS MANIFEST

OCCUPIER ……

ADDRESS OF PREMISES ……

……

DATE OF PREPARATION ……

SITE PLAN NUMBER ……

Name	Position	Telephone
		AH BH MOB
		AH BH MOB
		AH BH MOB
		AH BH MOB

BULK STORAGE DETAIL

Tank ID No	Dangerous Goods					Tank Detail	
	Name	Class	Sub Risks	UN No	Package Group	Capacity`	Location

PACKAGE STORAGE DETAILS

Storage Area	Dangerous Goods					Tank Detail	
	Name	Class	Sub Risks	UN No	Package Group	Average Quantity	Location

Appendix B – Sample Material Safety Data Sheet (MSDS)

This Sample Material Safety Data Sheet (MSDS) is based on a MSDS supplied by Orica Chemicals (Orica Material Safety Data Sheet – Calcium hypochlorite (issue date 01.10.1998)

MATERIAL SAFETY DATA SHEET

A. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY / UNDERTAKING

Product Name: Calcium hypochlorite – hydrated

Synonyms: calcium hypochlorite – hydrated, Dry chlorine, Cal hypo, Calcium oxychloride

CAS-No.: 7778-54-3

Molecular Formula: Ca(OCl)2

Supplier:
ACN:
Street Address:
Telephone:
Facsimile:
Emergency Telephone Number:

B. COMPOSITION / INFORMATION ON INGREDIENTS

Recommended Use: Swimming pool chemical, algicide and bactericide

Appearance: White granular solid with a chlorine odour

Calcium hypochlorite (hydrated, 70% available chlorine)

C. HAZARDS IDENTIFICATION

Hazardous according to Worksafe Australia

Hazard Category: C Corrosive

R-phrase(s)
R8 Contact with combustible material may cause fire
R31 Contact with acids liberates toxic gas
R34 Causes burns
R41 Risk of serious damage to eyes

Classified as Dangerous Goods for the purpose of transport by road or rail. Refer to relevant regulations for storage and transport requirements

Class: 5.1 Oxidizing Agent

Poisons Schedule (Aust) / Toxic substance (NZ): S5

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

D. FIRST AID MEASURES

Poison Information Centres in each State capital city can provide additional assistance for scheduled poisons.

Ingestion: Immediately rinse mouth with water. Give water to drink. Do not induce vomiting. Seek immediate medical assistance.

Eye contact: immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Skin contact: immediately wash contaminated skin with plenty of water. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering, or irritation occurs seek medical advice. For skin burns, immediately flood burnt area with plenty of water and cover with a clean, dry dressing. Seek immediate medical advice.

Inhalation: remove victim from exposure – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through a face mask. If breathing has stopped apply artificial respiration at once. In event of cardiac rest, apply external cardiac massage. Seek medical advice.

Notes to Physician: Treat symptomatically. Delayed effects from exposure to chlorine (decomposition product) can induce shortness of breath, headaches, pulmonary oedema and pneumonia.

E. FIRE FIGHTING MEASURES

Specific hazards: non combustible, but will support the combustion of other material.

Fire fighting further advice: powerful oxidising agent. Not combustible, but will support combustion of other materials. Decomposes violently upon heating, liberating oxygen, hence “fuelling” any fire, and toxic gas. In case of fire, area must be evacuated and specialist fire fighters called. Only large quantities of water should be used as an extinguishing agent. If excess water is not available do not attempt to extinguish the fire; use available water to prevent the spread of fire to adjacent property. Fire fighters to wear self contained breathing apparatus if risk of exposure to products of combustion and decomposition. A fire in the vicinity of calcium hypochlorite should be extinguished in the most practical manner but avoid contaminating the calcium hypochlorite with fire fighting agent, including water (decomposes upon contact with water evolving toxic chlorine gas). Once fire is extinguished wash area down with excess water ensuring any traces of calcium hypochlorite are washed away. Ensure drains are not blocked with solid material. Maintenance of excess water during cleanup is essential. Any contaminated combustible material should be removed to a safe open area for controlled burning or further drenching with water to ensure complete decontamination before disposal.

Suitable extinguishing media: Water spray or fog (large quantities necessary).

F. ACCIDENTAL RELEASE MEASURES

Wear protective equipment to prevent skin and eye contamination and inhalation of dust or vapours of decomposition. Work up wind. Avoid contact with moisture or any other incompatible materials. Sweep up, avoiding generation of dust, then immediately spread as a thin layer in an uncontaminated, dry, open area to reduce the possibility of local hot spots forming. Gradually hose to drain ensuring large dilution. Do not store or transport swept up material. Do not return spilled material to container. Do not add small amounts of water to material.

Where a spill has occurred in a confined space or an unventilated building / enclosure and the material is damp and evolving chlorine, the rate of chlorine evolution can be reduced by covering the thinly spread solid with soda ash.

For large spills notify Emergency Services.

G. HANDLING AND STORAGE

Storage: Store in a cool, dry place and out of direct sunlight. Store away from combustible materials, foodstuffs, and sources of heat. Keep dry – reacts with water, may lead to drum rupture. Keep containers closed at all times – check regularly for spills. Ensure that pallets are clean and free from oil. Do not return spilled material to original container. Treat as described in "Spills".

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

H. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits
No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

However, exposure standard for decomposition product:

	Category	TWA	Notices	Carcinogen
Chlorine		1ppm (3mg/m3) Peak Limitation	-	-

As published by the National Occupational Health and Safety Commission (Worksafe Australia).

Peak Limitation – a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

Exposure Standard (TWA) is the time weighted average airborne concentration over an eight hour working day, for a five day working week over an entire working life. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

This Exposure Standard is a guide to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. This Exposure Standard should not be used as a fine dividing line between safe and dangerous concentrations of this chemical. It is not a measure of relative toxicity.

Odour threshold for Chlorine: 0.5-2ppm for previously unexposed individuals.

Engineering measures: Use in a well ventilated area. Avoid generating and inhaling dusts. Keep containers closed when not in use.

Personal protective equipment: Overalls, safety shoes, chemical goggles, gloves, dust mask.

Avoid skin and eye contact. Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear dust mask / respirator meeting the requirements of AS 1715 and AS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using as it constitutes a fire hazard.

I. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: White granular solid with a chlorine odour.

Solubility: Soluble in water

Specific Gravity (20C):	2.1	Melting Point (C):	N Av
Rel. Vapour Density (air=1):	N Av	Boiling Point (C):	N App
Vapour Pressure (20C):	N Av	Decomp. Point (C):	180
Flash Point (C):	N Av	Sublimation Point:	N App
Flammability Limits (%):	N Av	pH (5% aq sol):	11.5
Autoignition Temp (C):	N Av	Viscosity:	N App
%Volatile by volume:	Nil	Evaporation Rate:	N App
Solubility in water (g/l):	N Av		

N Av = Not Available N App = Not Applicable

J. STABILITY AND REACTIVITY

Stability: Oxidising agent. Will react with organic materials. Can readily ignite combustible materials. Decomposition can be rapid and violent upon contact with incompatible materials and on heating. Decomposes in water evolving chlorine gas. Corrosive to most metals in the presence of moisture.

K. TOXICOLOGICAL INFORMATION

Main Symptoms: No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled are:

Ingestion: Swallowing can result in gastrointestinal corrosion causing severe pain, nausea and vomiting. Large doses may be fatal.

Eye contact: A severe eye irritant. Contamination of the eyes can result in permanent injury. Corrosive to eyes; contact can cause corneal burns.

Skin contact: Contact with skin will result in severe irritation. Corrosive to skin – may cause skin burns.

Inhalation: Dusts and chlorine (decomposition product) are corrosive to the respiratory tract. Confusion, pulmonary oedema, and collapse can result. Chlorine, evolved from decomposition when wet, is a severe respiratory irritant, corrosive and highly toxic. Delayed effects can include shortness of breath, headache, pulmonary oedema and pneumonia.

Long term effects: No information available for product.

Acute toxicity / Chronic toxicity: Oral LD50 (rat): 850mg/kg (1)

L. ECOLOGICAL INFORMATION

Avoid contaminating waterways

M. DISPOSAL CONSIDERATIONS

Wash to drain with large quantities as described in "Spills". Do not dispose of at any waste site without first referring to State Land Waste Management Authority. Empty containers must be decontaminated by thoroughly rinsing with water.

N. TRANSPORT INFORMATION

Classified as Dangerous Goods for the purpose of transport by road or rail. Refer to relevant regulations for storage and transport requirements.

UN-No:	2880	
Class:	5.1	Oxidizing Agent
Hazchem Code:		2W
EPG:	5.1.004	
Packing Group:		Packing Group 2

Proper Shipping Name: Calcium Hypochlorite, Hydrated

Segregation Dangerous Goods: Not to be loaded with explosives (class 1), flammable gases (class 2.1), poisonous gases (class 2.3), flammable liquids (class 3), flammable solids (class 4.1), spontaneously combustible substances (class 4.2), dangerous when wet substances (class 4.3), organic peroxides (class 5.2), poisonous substances (class 6), radioactive substances (class 7), corrosives (class 8), miscellaneous dangerous substances (class 9), fire risk substances other than dangerous goods, however exemptions may apply.

O. REGULATORY INFORMATION

Hazardous according to criteria of Worksafe Australia.

Hazard Category: C Corrosive

R-phrase(s)
R8 Contact with combustible material may cause fire.
R31 Contact with acids liberates toxic gas.

R34 Causes burns.
R41 Risk of serious damage to eyes.

S-phrase(s)
S2 Keep out of reach of children
S26 In case of contact with eye, rinse immediately with plenty of water and seek medical advice.
S43 In case of fire, use large quantities of water.

Poisons Schedule (Aust) / Toxic Substance (NZ): S5

Appendix C - Bulk Storage Full Safety Checklist

This has been adapted from the Orica Bulk Installation Full Safety Checklist Generic 20/09/2000

BULK INSTALLATION - FULL SAFETY CHECKLIST

Customer Details:	Office Details: Account Manager:
Contact Name:	Inspected By:
Contact Phone Number:	Audit date:
Location:	Status:
Business:	Next Audit Date:
State:	Revised Audit Date:
Product Detail:	Tank ID:
Tank Capacity:	Tank Material:

Note : High Priority items are essential for safe operation
Medium Priority items are critical for overall safe operation, regulatory compliance or environmental protection.

Item No	Tank	Yes	No	Priority	Actions/Comments
1	Is the storage system included on a current dangerous goods license?			High	
2	Is the tank located in a bund?			High	
3	Is the tank construction material suitable for the product?			High	
4	Is the level indictor visible from the loading point?			High	
5	Is a level indicator showing the maximum fill level installed?			High	
6	Is a high alarm installed and tested regularly?			High	
7	Is the high alarm independent of the level indicator?			High	
8	Is a vent installed on the tank (50mm)?			High	
9	Is an over flow installed on the tank (80mm)?			Medium	
10	Is the overflow directed into the bund where it can be seen by the driver during unloading?			High	
11	Is the overflow and vent connected to a lute scrubber (if applicable)?			High	
12	Does the tank appear to be in sound condition, (no leaks corrosion, bulging)?			High	
13	Is the bund and lining of suitable material?			Medium	
14	Is the bund in good condition?			High	
15	Does the tank have appropriate warning signage and identification?			High	

Item	Pipework and Fittings	Yes	No	Priority	Actions/Comments
1	Is the Pipework construction material suitable for the product?			High	
2	Is the filling point and Pipework clearly and unambiguously labelled?			High	
3	Is the tank filling isolation valve easily accessible and unobstructed?			Medium	
4	Is the size and type of tanker coupling appropriate?			High	
5	Is the delivery line fitted with a drain valve and is the valve easily accessible and unobstructed?			High	
6	Does the delivery line drain valve have a visible outlet?			High	
7	Do the Pipework and fittings appear to be in sound condition?			High	
8	Are the Pipework and fittings properly supported?			High	

Item	Customer's Pump (if applicable)	Yes	No	Priority	Actions/Comments
1	Is the pump located outside the tank bund or above the bund wall level or protected from being made inoperative by a spill?			Medium	
2	Is the pump stop/start switch easily accessible and unobstructed?			High	
3	Is emergency shutoff of power to pump provided?			High	
4	Is pump free of leaks and in good condition?			Medium	

Item	Tanker pump Connection (if aApplicable)	Yes	No	Priority	Actions/Comments
1	Is the power supply socket suitable for tanker requirements?			High	
2	Is the power supply socket appropriately labelled and within 7 meters of the hook up point?			High	
3	Can the power supply be easily isolated and does it have an earth leakage device?			Medium	
4	Does the power supply socket appear to be in good condition?			High	

Item	Safety	Yes	No	Priority	Actions/Comments
1	Are drivers aware and trained in site emergency procedures?			High	
2	Is there a safety shower/eyewash station located within 2-7 meters of the hook up point? Does it work?			High	
3	Is there a water hose located within 2 – 7 meters of the hook up point? Does it work?			Medium	
4	Are the correct Hazchem Signs in position?			High	
5	Are there other chemicals stored in the same bund? Are they compatible?			Medium	

Item	Access	Yes	No	Priority	Actions/Comments
1	Is discharge area and access road free of obstruction?			Medium	
2	Is tanker inside spill collection compound when unloading?			Medium	
3	Are there provisions to contain spillage from filling hoses/point?			High	

Item	Unloading	Yes	No	Priority	Actions/Comments
1	Is the authority to unload always signed prior to unloading?			High	
2	Is the tanker hookup always carried out by the driver?			High	
3	Are there provisions to contain spillage from the hoses?			High	

Other Comments:

……
……
……
……

GLOSSARY

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.

Guideline

A guideline is a voluntary standard.

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.

Packing Group

Dangerous Goods (other than Class 1, 2 and 7) are assigned to Packing Groups. The groups are classified according to the degree of risk the goods present during transport.

- Great Danger Packing Group 1
- Medium Danger Packing Group 2
- Minor Danger Packing Group 3

Assignment to a Packing Group will depend on the class and the Subsidiary Risks of the goods and on the nature of the physical hazard presented by the goods.

If the goods present multiple hazards then they are assigned the category appropriate to the most severe hazard.

Dangerous Goods are assigned to a Packing Group in accordance to regulation 2.5 in the Australian Dangerous Goods Regulations.

Personal Protective Equipment

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

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

- A dwelling, place of worship, public building, school or college, childcare facility, hospital, theatre, or any building or open area in which people are accustomed to assemble, whether within or outside the property boundary of the installation.

- A factory, workshop, office, store, warehouse, shop or building where people who are not associated with the operation of the chlorine installation are employed.

- A ship lying at permanent berthing facilities.

- Any storage facility for Dangerous Goods that exceeds minor storage quantities and is outside the property boundary of the installation.

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.

Risk Management

The identification and management of potential and existing hazards.

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.

REFERENCES / BIBLIOGRAPHY

1.1 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
- Victorian Aquatic Industry Council (VAIC)
- Royal Life Saving Society Australia (Guidelines for Safe Pool Operations)
- 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

1.2 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

New South Wales

- Dangerous Goods (General) Regulations 1999
- Occupational Health & Safety Regulation 2001

Northern Territory

- Dangerous Goods Regulations 2003
- Work Health (Occupational Health and Safety) Regulations 2002

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

South Australia

- Dangerous Substances Act 1979
- Occupational Health, Safety and Welfare Act 1986
- Code of Practice for the Control of Workplace Hazardous Substances

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 1985
- 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 Premises (Department of Industry and Resources)
- Guidance Note – Storage of Dangerous Goods – General Requirements for Premises Exempt from Licensing (Department of Industry and Resources)

1.3 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 3780-1994	The storage and handling of corrosive substances
AS 4326-1995	The storage and handling of oxidizing agents
AS 4332-1995	Storage and handling of gases in cylinders
AS/NZS 4360 – 2004	Risk management

1.4 OTHER REFERENCE MATERIAL

Seton Australia Trade Catalogue July – December 2003
Spill Station Australia Catalogue, Reed Business Information November 2002
The Materials Handling Guide, Reed Business Information November 2002
Orica Material Safety Data Sheet – Calcium hypochlorite (issue date 01.10.1998)
Orica Bulk Installation Full Safety Checklist Generic 20/09/2000

1. TITLE: EMPLOYEE AWARENESS - FIRST AID

2. DATE ISSUED: 1 August, 2010 ISSUE: 4

3. PURPOSE: To establish a minimum standard of training in employee awareness of first aid at swimming pools.

4. DESCRIPTION:

4.1 Initial Instruction

Initial theoretical and practical instruction should be provided to all employees and responsible persons (refer also GSPO Guideline SU7 Lifeguard Induction and In-Service Training and GSPO Guideline LP1 Low Patronage Pools) in the nature of first aid facilities in the workplace, the location of first aid kits, the availability of trained first aiders and procedures to be followed when first aid is required when:

a) an employee first becomes employed
b) there is a change in the nature and type of duties performed and thereafter at regular intervals.

4.2 Hazard Advice

a) All employees should be advised and kept aware of any hazards particular to the workplace, in addition to any general hazard awareness advice. (Refer to GSPO Guideline GO7 Risk Management).
b) Any hazard should be isolated and a hazard report subsequently prepared in accordance with established procedures. (Refer to GSPO Guideline GO7 Risk Management).

5. REFERENCES / FURTHER INFORMATION

- GSPO Guideline LP1 Low Patronage Pools
- GSPO Guideline SU7 Lifeguard Induction and In-Service Training
- Lifeguarding, 4th Edition, 2007, Royal Life Saving Society Australia, Mosby, Sydney
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW

6. PREVIOUS VERSIONS

- Guideline FA1 Employee Awareness – First Aid, July 1996
- Guideline FA1 Employee Awareness – First Aid, January 1994
- Guideline FA1 Employee Awareness – First Aid, August 1991

1. TITLE: STANDARDS OF TRAINING FOR FIRST AIDERS

2. DATE ISSUED: 1 August, 2010 ISSUE: 4

3. PURPOSE: To establish minimum standards of training for first aiders at swimming pools.

4. DESCRIPTION:

4.1 All aquatic facilities should provide appropriately trained First Aid providers at all times whilst open for operation.

4.2 Basic Level

All first aid staff should hold an appropriate, current and recognised First Aid Certificate as required by relevant State and Territory legislation.

4.3 For all lifeguards the minimum standard is the RLSSA Pool Lifeguard Award and Resuscitation Award or equivalent.

4.4 Advanced Level

a) For those responsible for a First Aid room at public swimming pools which are capable of catering for 300 or more people at one time an appropriate Workplace First Aid Certificate is recommended.

b) For large swimming pools or multi - facility aquatic centres a higher level First Aid Certificate should be held. Qualifications and training include advanced oxygen, use of epipens, ventolin and defibrillation.

4.5 To ensure ongoing competency, first aid should form part of the ongoing in-service training provided by the aquatic facility for its staff. (Refer to GSPO Guideline SU7 Lifeguard Induction and In-Service Training).

4.6 Currency

All the awards should remain current according to the policy of the accrediting organisation and, where appropriate, the Australian Resuscitation Council (ARC).

4.7 Check on Accreditation

It is the employer's responsibility to check:

- the status of the individual's qualifications
- the currency of the qualification

- the ability of the person to perform any of the activities forming part of the qualification
- these checks should be recorded (Refer GSPO Guideline GO1 Operations Manual)

5. REFERENCES / FURTHER INFORMATION

- Australian Resuscitation Council Guideline 9.1.1, Cardiopulmonary Resuscitation Training
- GSPO Guideline GO1 Operations Manual
- GSPO Guideline SU7 Lifeguard Induction and In-Service Training
- Lifeguarding, 4th Edition, 2007, Royal Life Saving Society Australia, Mosby, Sydney
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW

6. PREVIOUS VERSIONS

- Guideline FA2 Standards of Training for First Aiders, July 1996
- Guideline FA4 Standards of Training for First Aiders, January 1994
- Guideline FA4 Standards of Training for First Aiders, August 1991

1. TITLE: CONTENT OF FIRST AID ROOMS

2. DATE ISSUED: 1 August, 2010 ISSUE: 5

3. PURPOSE: To establish a list of contents for the first aid room at an aquatic facility.

4. DESCRIPTION:

4.1. All aquatic facilities should provide first aid facilities of appropriate size and equipment levels. (Refer GSPO Guideline FA4 Content of First Aid Kits and GSPO Guideline FD3 Design of First Aid Rooms).

4.2 Where possible, the first aid room or area should be dedicated to the provision of first aid only. If the first aid room or area is set up in a multi-purpose area, then the first aid facilities and equipment must be clear of obstructions and ready for immediate use at all times.

4.3.1 Fittings and Equipment.

Any room used as a First Aid Room should provide the following:

a) Sink with hot and cold water.
b) Paper towel and dispenser.
c) Soap and nail brush.
d) A floor that is easy to clean and disinfect.
e) General power outlets.
f) Sufficient lighting (this may include an examination lamp).
g) Work bench or dressing trolley.
h) A removable screen or curtain which protects the privacy of the casualty.
i) Medical examination couch with blankets and pillows.
j) Two chairs.
k) Stretcher.
l) Access to a Spineboard and set of rigid extrication (cervical) collars. This equipment may be located in the First Aid room, on poolside or another easily accessible location.
m) Access to a container for the collection and subsequent disposal of soiled medical items used in first aid.
n) Sharps Container for collection of any dangerous sharps, e.g. syringes.
o) Access to Oxygen Equipment including appropriate spare equipment such as spare (full) cylinders, tubing, masks and regulator seals. Portable oxygen equipment may be located in the First Aid Room or on the poolside. (Refer GSPO Guideline FA5 Oxygen Equipment).

p) Material Safety Data Sheets for those chemicals in use at the facility.

q) Torch, pocket size.

4.3.2 These items are considered the minimum requirements for a first aid room at an aquatic facility. Various State and Territory First Aid Codes of Practice may have additional requirements which should be met (refer Section 5 References / Further Information).

4.4 Storage of Medication

Separate lockable storage facilities should be provided for:

a) Such medication as may be used by suitably qualified First Aiders

b) Items used for external wound treatment.

4.5 Recommended Optional Additional Items

The following items are recommended:

- Spill Kits for bodily fluids
- Disposable drinking vessels, 200ml (10)

Note: Recommend that expiry dates and stock levels should be assessed and recorded on a regular basis, at least monthly.

5. REFERENCES / FURTHER INFORMATION

- A Guide to First Aid in the Workplace, NT WorkSafe.
- A Guide to First Aid in the Workplace, WorkCover Tasmania.
- ACT First Aid in the Workplace 2006, ACT WorkCover.
- Code of Practice: (No 18) First Aid in the Workplace, Victorian WorkCover Authority.
- Code of Practice: First Aid Facilities and Services, Commission for Occupational Health and Safety, Western Australia.
- First Aid Code of Practice 2004, Queensland Government Department of Employment and Industrial Relations.
- First Aid in the Workplace, Guide 2001, WorkCover New South Wales.
- Code of Practice for Occupational Health and First Aid in the Workplace, 1991, SafeWork SA.
- GSPO Guideline FA4 Contents of First Aid Kits.
- GSPO Guideline FD23 Design of First Aid Rooms.
- Guidelines for Injury Management at the Workplace, WorkCover Western Australia.
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW

6. PREVIOUS VERSIONS

- Guideline FA4 Contents of First Aid Rooms, September 1999.
- Guideline FA4 Contents of First Aid Rooms, July 1996.
- Guideline FA5 Contents of First Aid Rooms, January 1994.
- Guideline FA4 Contents of First Aid Rooms, August 1991.

1. TITLE: CONTENT OF FIRST AID KITS

2. DATE ISSUED: 1 August, 2010 ISSUE: 1

3. PURPOSE: To establish a list of contents for first aid kits at an aquatic facility.

4. DESCRIPTION:

4.1. All aquatic facilities should provide first aid facilities of appropriate size and equipment levels. (Refer GSPO Guideline FA3 Content of First Aid Rooms and GSPO Guideline FD3 Design of First Aid Rooms).

4.2 First Aid Kit (Container)

4.2.1 Size of the First Aid Kit

a) The Kit should be in a solid, sturdy and dust-proof container.
b) The Kit should be large enough to adequately house the contents of the Kit.
c) If any modules are to be included, the Kits should be large enough to hold them, preferably in separate compartments.

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

4.2.3 The Kit should not be locked.

4.2.4 At least one kit, which is portable, should be provided for use at the site of a casualty. Larger facilities should provide several portable kits at strategic locations, which allow speedy access. First Aiders should be inducted in the location of all first aid kits and equipment. (Refer GSPO Guideline FA1 Employee Awareness – First Aid and GSPO Guideline SU7 Lifeguard Induction and In-Service Training)

4.3 First Aid Kit - Contents

a) First Aid Rooms should have a First Aid Kit with the following contents:
- Emergency services telephone numbers and addresses
- Scissors (Stainless steel, sharp/blunt 125mm) (1)
- Disposable latex gloves (1 box)
- Triangular bandages (4)

- Sterile eye pads (4)
- Safety pins (10)
- Adhesive tape (hypoallergenic) (1 roll)
- Sterile coverings for serious wounds (15)
- Heavy crepe bandage (1)
- Burns module (1)
- Eye module (1)
- Un-medicated wound dressing (Medium) (Large) (4 of each)
- Gauze pieces, sterile 7.5 x 7.5 cm (2 packets)
- Individually wrapped sterile adhesive dressing (1 pack)
- Adhesive dressing strips (individually wrapped) (100)
- Basic first aid notes
- Liquid skin antiseptic
- Tweezers / splinter forceps
- Ice packs (2)
- Sterile wound closures (1 Pack)

b) These items are considered the minimum requirements for a basic occupational first aid kit at an aquatic facility. Various State and Territory First Aid Codes of Practice may have additional requirements which should be met (refer Section 5 References / Further Information).

c) Additional items appropriate to the workplace may be provided in the First Aid Room provided that personnel expected to use them are trained in their use (refer GSPO Guideline FA1 Employee Awareness - First Aid and Guideline SU7 Lifeguard Induction and In-Service Training).

d) Recommend that expiry dates and stock levels should be assessed and recorded on a regular basis, at least monthly.

e) Some first aid staff may develop, or may have already developed, an allergy to latex. Facilities should consider providing alternative latex free equipment, especially gloves.

4.5 Recommended Optional Additional Items

The following items are recommended:

- Dressing forceps 125mm minimum (1 pair)
- Kidney tray (1)

5. REFERENCES / FURTHER INFORMATION

- A Guide to First Aid in the Workplace, NT WorkSafe.
- A Guide to First Aid in the Workplace, WorkCover Tasmania.
- ACT First Aid in the Workplace 2006, ACT WorkCover.
- Code of Practice: (No 18) First Aid in the Workplace, Victorian WorkCover Authority.

- Code of Practice: First Aid Facilities and Services, Commission for Occupational health and Safety, Western Australia.
- First Aid Code of Practice 2004, Queensland Government Department of Employment and Industrial Relations.
- First Aid in the Workplace, Guide 2001, WorkCover New South Wales.
- Code of Practice for Occupational Health and First Aid in the Workplace, 1991, SafeWork SA.
- GSPO Guideline FA1 Employee Awareness – First Aid.
- GSPO Guideline FA4 Contents of First Aid Kits.
- GSPO Guideline FD23 Design of First Aid Rooms.
- GSPO Guideline SU7 Lifeguard Induction and In-Service Training.
- Guidelines for Injury Management at the Workplace, WorkCover Western Australia.

6. PREVIOUS VERSIONS

Note: Contents of this Guideline were previously covered in a different Guideline (Content of First Aid Rooms).

- Guideline FA4 Contents of First Aid Rooms, September 1999.
- Guideline FA4 Contents of First Aid Rooms, July 1996.
- Guideline FA5 Contents of First Aid Rooms, January 1994.
- Guideline FA4 Contents of First Aid Rooms, August 1991.

1. TITLE: OXYGEN EQUIPMENT

2. DATE ISSUED: 1 August, 2010 ISSUE: 4

3. PURPOSE: To establish the appropriate requirements for oxygen equipment, when provided, for resuscitation and therapy purposes at aquatic facilities.

4. DESCRIPTION:

4.1 All aquatic facilities should provide oxygen equipment for use by trained personnel in minor and major emergencies.

4.2 Australian Standards

Only equipment that conforms to the current Australian Standard AS 2488-1995 should be provided.

4.2 Qualifications

a) Minimum qualifications for operators of oxygen equipment are as follows:
   - RLSSA Oxygen Resuscitation Award, or
   - RLSSA Pool Lifeguard Award, or
   - RLSSA Oxygen Equipment Award or a qualification of an equivalent standard offered by a recognised oxygen equipment teaching organisation.

b) Aquatic facilities, particularly larger facilities, should consider having at least one staff member qualified with advanced oxygen training, such as the RLSSA Oxygen Equipment Award or equivalent, on duty at all times when the facility is open to the public.

c) These qualifications should remain current according to the policy of the accrediting organisation and, where appropriate, the Australian Resuscitation Council.

d) Operators are accredited to use the specific oxygen equipment and to the competency level of the specific training course.

4.3 Cylinders

a) At least one spare, full ‘C’ sized oxygen cylinder should be stored in an easily accessible location at all times, ready to be used if required.

b) Spare oxygen cylinders should be stored securely in a manner that prevents them from falling over.

c) Spare oxygen cylinders should be stored in a clean, dry, ventilated location free from dust, oil, grease, heat and sand.

d) Oxygen cylinders should be stored only as long as the cylinder supplier is prepared to guarantee the quality of the oxygen contained within. Upon reaching this time limit, cylinders should be rotated back to the supplier for re-gassing.

4.3 Storage

Oxygen equipment should be stored safely in a clean, dry, ventilated location free from dust, oil, grease, heat, sand and easily accessible to trained staff.

4.4 Servicing

a) All equipment should be serviced and maintained in accordance with the manufacturers' recommendations or at least annually, or after any problem in operation, or when the trained operator is uncertain of performance. This information should be recorded.

b) Oxygen equipment including cylinders, tubing and masks should be inspected and checked for correct operation and adequacy of oxygen delivery prior to or at Centre opening each day. This information should be recorded.

4.5 Training

a) Those aquatic facilities utilising oxygen equipment should ensure that staff participate in regular practise sessions. (Refer GSPO Guideline FA1 Employee Awareness – First Aid and GSPO Guideline SU7 Lifeguard Induction and In-Service Training).

b) A record of this training should be retained.

5. REFERENCES / FURTHER INFORMATION

- AS2488-1995 Resuscitators intended for human use
- Australian Resuscitation Council Guideline 10.1.2 The Use of Oxygen in Emergencies
- GSPO Guideline FA1 Employee Awareness – First Aid.
- GSPO Guideline FA3 Contents of First Aid Rooms
- GSPO Guideline FA4 Contents of First Aid Kits.
- GSPO Guideline SU7 Lifeguard Induction and In-Service Training.
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW

6. PREVIOUS VERSIONS

- Guideline FA5 Oxygen Equipment, July 1996.
- Guideline FA2 Oxygen Equipment, January 1994.
- Guideline FA2 Oxygen Equipment, August 1991.

1. TITLE: FIRST AID STATIONS

2. DATE ISSUED: 1 August, 2010 ISSUE: 2

3. PURPOSE: To provide guidance on the provision of first aid stations in aquatic facilities.

4. DEFINITION: A first aid station is a designated location adjacent to a swimming pool concourse at which a range of first aid and rescue equipment is placed to enable ready access by trained pool supervisors and lifeguards (in addition to a first aid room).

5. DESCRIPTION:

5.1 Location

a) The first aid station is usually located near a main pool supervision area.
b) For outdoor swimming pools a portable first aid station or trolley may be appropriate.
c) The first aid station should be clearly identified by appropriate signage that complies with Australian Standard AS 1319-1994:
   - a white cross on a green background;
   - and the words 'First Aid'.

5.2 First Aid Equipment at Station

a) First Aid Kit appropriate to the environment
b) Oxygen Equipment
c) Chair
d) Blanket
e) Rigid extrication collars
f) Report Forms

5.3 Rescue Equipment

a) Rescue tube, rescue can or other flotation device
b) Rescue pole
c) Throw rope
d) Spineboard

5.4 Other Equipment

The first aid station may also be used as an emergency station as such additional equipment may be available, including:

a) Loud hailer

b) Hard hat
c) Plant emergency shut off controls
d) Telephone
e) Public address microphone
f) Means of communication with facility reception (if different to above).

6. REFERENCES / FURTHER INFORMATION

- AS1319-1994 Safety signs for the Occupational Environment, SAI Global, Sydney.
- GSPO Guideline FA1 Employee Awareness – First Aid.
- GSPO Guideline FA4 Contents of First Aid Kits.
- GSPO Guideline FD3 Design of First Aid Rooms.

7. PREVIOUS VERSIONS

- Guideline FA5 First Aid Stations, July 1996.

1. TITLE: PERSONAL PROTECTIVE EQUIPMENT AND SAFETY

2. DATE ISSUED: 1 August, 2010 ISSUE: 1

3. PURPOSE: To provide guidance on the provision of personal protective equipment in aquatic facilities.

4. DEFINITION:

Personal protective equipment (PPE) is equipment designed as a barrier between the user and a potentially harm causing substance or environment. As such, PPE falls into the lowest category of the Hierarchy of Controls of risk management and should only be used when other options have been exhausted.

5 FIRST AID

All lifeguards should carry the minimum of a resuscitation pocket mask fitted with an oxygen inlet valve, as approved by Australian Standard AS 4259 and at least one pair of disposable gloves to provide protection from cross-infection of diseases when performing resuscitation or first aid. (Refer GSPO Guideline SU9 Lifeguard Clothing and Equipment).

6. CHEMICALS

The PPE required for different chemicals is listed in the Material Safety Data Sheet for that chemical (Refer GSPO Guideline TO6 Material Safety Data Sheets). Aquatic facilities should provide its staff with the required PPE for the chemicals used in it. This may include:

- Aprons
- Boots
- Face shield
- Gloves
- Goggles
- Overalls
- Respirator

7. SUN PROTECTION:

7.1 To minimize exposure to UV radiation, all lifeguards and other aquatic facility staff working outdoors should be required to where the following:

- long sleeved shirt with collar
- sunglasses
- broad brimmed hat
- SPF 30+ broad spectrum sunscreen

Note: Where lifeguards rotate between indoors and outdoors long sleeved shirts may not be practicable.

7.2 Facilities should provide shade where practicable at designated lifeguard positions.

8. HEAT PROTECTION

All aquatic facilities need to protect their staff from dehydration, heat stress and heat exhaustion by:

- Providing adequate supplies of water
- Rotating staff more quickly through known hot areas
- Providing shade as described in Section 7 (above)
- Providing air conditioning / heat extraction where appropriate

9. IMMUNIZATION

9.1 A lifeguard or first aider may come into contact with blood and other body fluids during the course of their duties. These body fluids may transmit infectious diseases such as Hepatitis and Influenza, amongst others.

9.2 It is recommended that lifeguards and first aiders keep their immunizations up to date as recommended by their medical attendant to minimize the chance of becoming infected.

9.3 The responsibility for a person's management of their immunization levels at all times rests with that person and the medical attendant concerned.

10. TRAINING

10.1 All aquatic facility staff that may need to use safety equipment and PPE in the course of their duties must be instructed on the location of and how to use the equipment. This training should be recorded. (Refer GSPO Guideline SU7 Lifeguard Induction and In-Service Education).

10.2 Facilities should undertake a risk assessment to determine which staff will require the use of safety equipment and PPE. (Refer GSPO Guidelines GO7 Risk Management and GSPO Guideline TO1 Occupational Health and Safety)

11. STORAGE

11.1 PPE should be stored in a location that is in close proximity to wear it will be required to be used.

11.2 PPE should be stored in a manner so that it is easily accessible.

11.3 PPE should be regularly inspected, maintained and/or replaced so that it is always in good condition and working order.

12. REFERENCES / FURTHER INFORMATION

- Australian Resuscitation Council Guideline 10.1.1, Protective Devices for Rescue Breathing
- Australian Resuscitation Council Guideline 9.6.2, Cross Infection Precautions in Basic Life Support
- Australian Standard AS 4259-1995 Ancillary devices for expired air resuscitation
- GSPO Guideline FA1 Employee Awareness – First Aid
- GSPO Guideline FA4 Contents of First Aid Kits
- GSPO Guideline FD3 Design of First Aid Rooms
- GSPO Guideline GO7 Risk Management
- GSPO Guideline SU6 Lifeguard Health and Fitness
- GSPO Guideline SU7 Lifeguard Induction and In-Service Training
- GSPO Guideline SU9 Lifeguard Clothing and Equipment
- GSPO Guideline TO1 Occupational Health and Safety
- GSPO Guideline TO6 Material Safety Data Sheets
- Swimming Pool Water – Treatment and Quality Standards for Pools and Spas, 2nd Ed, 2009, Pool Water Treatment Advisory Group
- SunSmart Sport Policy (www.sunsmart.com.au)

1. TITLE: FIRST AID FORMS

2. DATE ISSUED: 1 August, 2010 ISSUE: 1

3. PURPOSE: To provide guidance on the content of first aid forms used in aquatic facilities.

4. LOCATION

Ready to use first aid forms should be kept in the following locations:

a) First aid room(s)
b) First aid stations
c) Any other appropriate location

5. CONTENT

The content of a first aid report should include as a minimum the following:

a) Casualty's name, gender and date of birth
b) Incident description
c) Incident time and place
d) Nature of injury or disease
e) Bodily location
f) Treatment description
g) Follow up action taken
h) Witness details
i) Guardian details
j) Emergency service details

6. USE OF FIRST AID FORMS

a) First aid forms should be used for every minor and major emergency at an aquatic facility.
b) Where possible, the completed first aid form should be signed by the casualty (or their guardian where appropriate).
c) The first aid form should be completed in pen (as opposed to pencil), so as to provide a permanent record
d) The original first aid form should be kept and stored by the aquatic facility
e) First aid forms should be reviewed as part of a risk management program to try and identify hazardous areas or behaviours in the aquatic facility. This should be done at least annually.

7. STORAGE AND PRIVACY

a) A copy of the completed first aid form should only be given to the casualty upon request and in accordance with relevant State and Territory privacy regulations.

b) Aquatic facilities should store their used first aid forms for at least 7 years for adults, and for a minor they should be stored for 7 years after the person will turn 18 years of age.

c) Storage of first aid forms should be done in a manner that ensures compliance with relevant privacy regulations.

d) First aid forms should be stored so that they remain legible for the required time period.

8. REFERENCES / FURTHER INFORMATION

- GSPO Guideline FA1 Employee Awareness – First Aid
- GSPO Guideline GO7 Risk Management
- GSPO Guideline TO1 Occupational Health and Safety
- Lifeguarding, 4th Edition, 2007, Royal Life Saving Society Australia, Mosby, Sydney

1. TITLE **DESIGN OF POOL TANK**

2. DATE ISSUED 1st November 2007 ISSUE: 4

3. PURPOSE To establish safety guidelines for the design of pool tank.
Note: For competition swimming pool design refer to the FINA Handbook.

4. DESCRIPTION

4.1 Pool Depth

Abrupt changes in water depth should be avoided particularly where bathers can stand.

4.1.1 In water depth where people can stand slip resistive surfaces should be provided where there is an abrupt change of depth.

4.1.2 Changes in gradient of the pool floor should be highlighted with a contrasting colour such as contrast tiles or painted lines, or sign WS,32 from the National Aquatic & Recreational Signage Style Manual, Third Edition, displayed where visible from within the pool and the surrounding concourse.

4.1.3 Gradient for the pool floor should not be steeper than 1:14, particularly in water less than 1.6 metres.

4.1.4 Changes in gradient of the pool floor where the depth is 1.6 metres or greater should be highlighted by an appropriate sign (refer also National Aquatic & Recreational Signage Manual symbol WS,32 or AS 2416 sign 215).

4.1.5 Where a diving pool is provided in the main pool, the transition from shallow to deep water may need to be steeper than 1:14. Where this occurs, special markings and appropriate signage should highlight this abrupt change in depth. (refer also National Aquatic & Recreational Signage Manual symbol WS,32 or AS 2416, sign 215).

4.2 Leisure and Pool Depths

4.2.1 The depth of water in pools designed for leisure activities such as tarzan ropes, climbing nets, flying foxes, water slides, flumes, inflatables, interactive play equipment and wave pools should be carefully considered and be appropriate for the activity, at all times ensuring the safety of the public.

4.2.1 (a) Tarzan Ropes

The depth of water over which a tarzan rope should be installed will depend upon the height of the take off, the length of the rope, the horizontal distance between the take

off and the rope fixing point and therefore the pendulous arc. Minimum water depth should be 1.8m.

(b) Climbing Ropes

The depth of water over which climbing ropes or cargo nets are installed will depend upon the height to which a user can climb to re enter the water. The minimum depth of water should be 2.0m (refer also Guideline FD8).

(c) Flying Foxes

(i) The take off point should be at the edge of the pool ensuring the user is over adequate water depth immediately after take off whereby falling from the equipment into the water would not result in the user striking the bottom of the pool causing injury.

(ii) The depth of water over which the user travels will depend upon the user's height above the surface of the water. The greater the height, the greater is the required depth of water.

(iii) The Flying Fox should be designed to allow the user to finish in the water a minimum of 2.0m of horizontal distance before the pool edge.

(d) Water Slide

(i) The depth of water into which a user completes the ride will depend upon the design of the water slide and the body of water used at the end of the slide, eg. a dedicated pool, a multipurpose pool or a splash down.

(ii) The rider should not be propelled to the opposite pool wall when exiting the slide.

(e) Inflatables

The depth of water in which an inflatable is located will be dependant upon the size of the inflatable and the age and size of the potential users. The depth of water should take into consideration the potential for the user to fall off, slide off or dive. (Refer Guideline SU13: Inflatable Play Equipment, and Appendix 4: Risk Management)

(f) Interactive Play Equipment (Children's Playground in Shallow Water)

The depth of water in which interactive water play equipment is installed is generally in the vicinity of 0.2m to 0.4m, depending upon equipment design.

(g) Wave Pools

The size of waves to be generated and the activities which will be conducted in the pool particularly when the waves are off will determine the depth of water and floor gradients of a wave pool.

(h) Rivers

Lazy or rapid rivers should have a constant depth throughout the length of the water course. Typical water depths are from 0.75m to 1.2m.

4.3 Surfaces

4.3.1 All areas where bathers enter the pool or congregate during activities need to have a slip-resistive and non-abrasive surface. These include:

- steps and ramps
- beach entry
- pool floor at shallow end of competition/lap pools where bathers can stand.
- learner's pool

– toddler's pool.

4.3.2 All pedestrian floor surfaces including ramps and steps should have a slip resistive surface rating conforming to the recommendations of Standards Australia Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".

4.4 Siting of Pools

The location and layout of pools, spas, waterslide, etc. within a facility can have a major effect on the ability for Lifeguards to provide adequate supervision, and sometimes small modifications/allowances during the design of a facility, or when deciding on refurbishments, can allow not only easier working practices and better standards of supervision, but may also potentially lessen the required number of staff to supervise a given pool/area. The following recommendations should be considered whenever new facilities are designed, and when refurbishments are made on existing facilities.

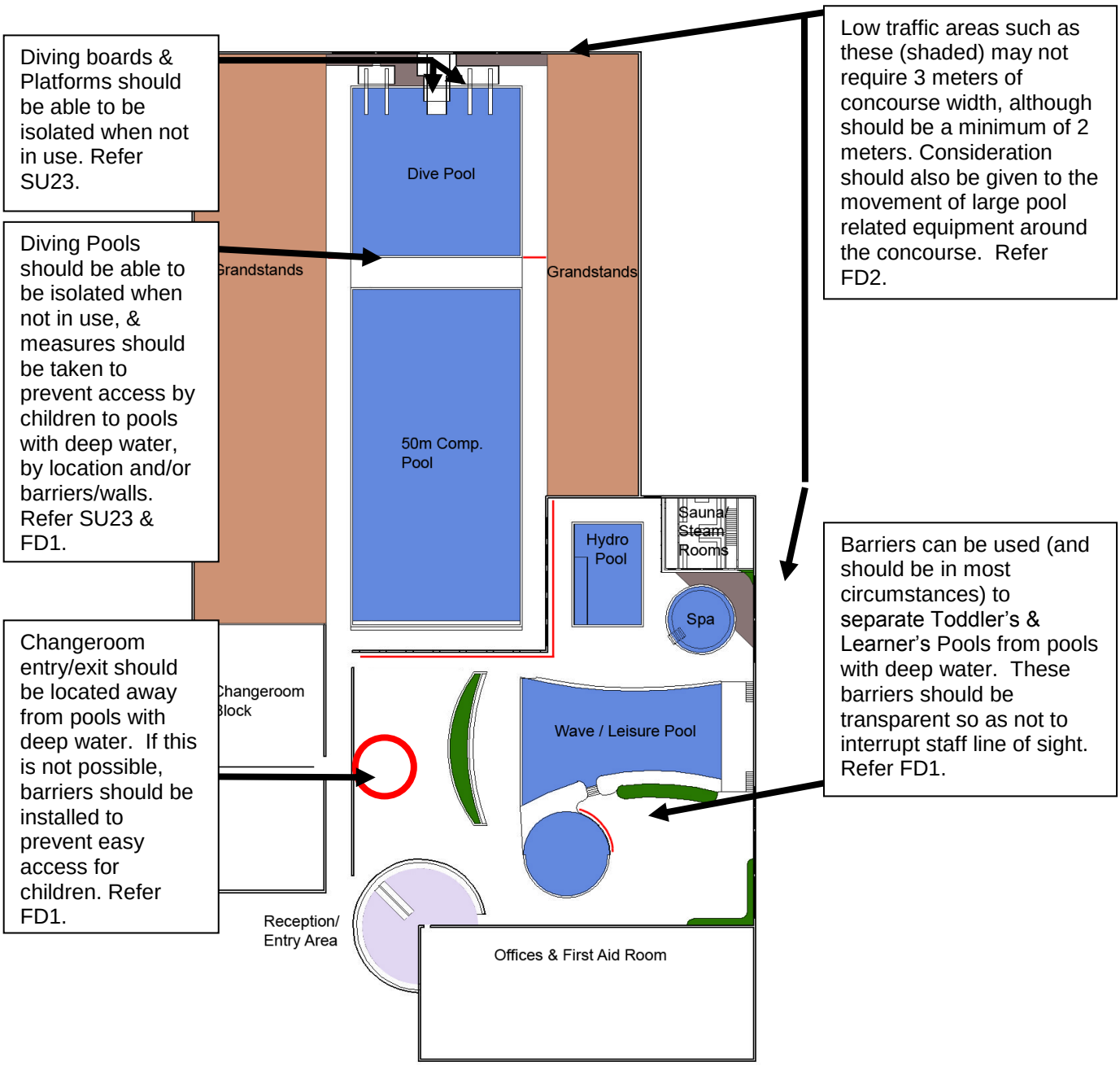
4.4.1 (a) Toddlers and learners pools should be situated away from the deep end of a pool or diving pools.
(b) Where this is not possible, effective transparent barriers, and appropriate signage should be provided.
(c) These barriers should not interfere with the line of sight for supervision.

4.4.2 Water of 1.2m depth or greater should not be situated near main entry points to pool hall, major traffic flow areas or change room entry. Where this is not possible effective barriers, and appropriate signage should be provided.

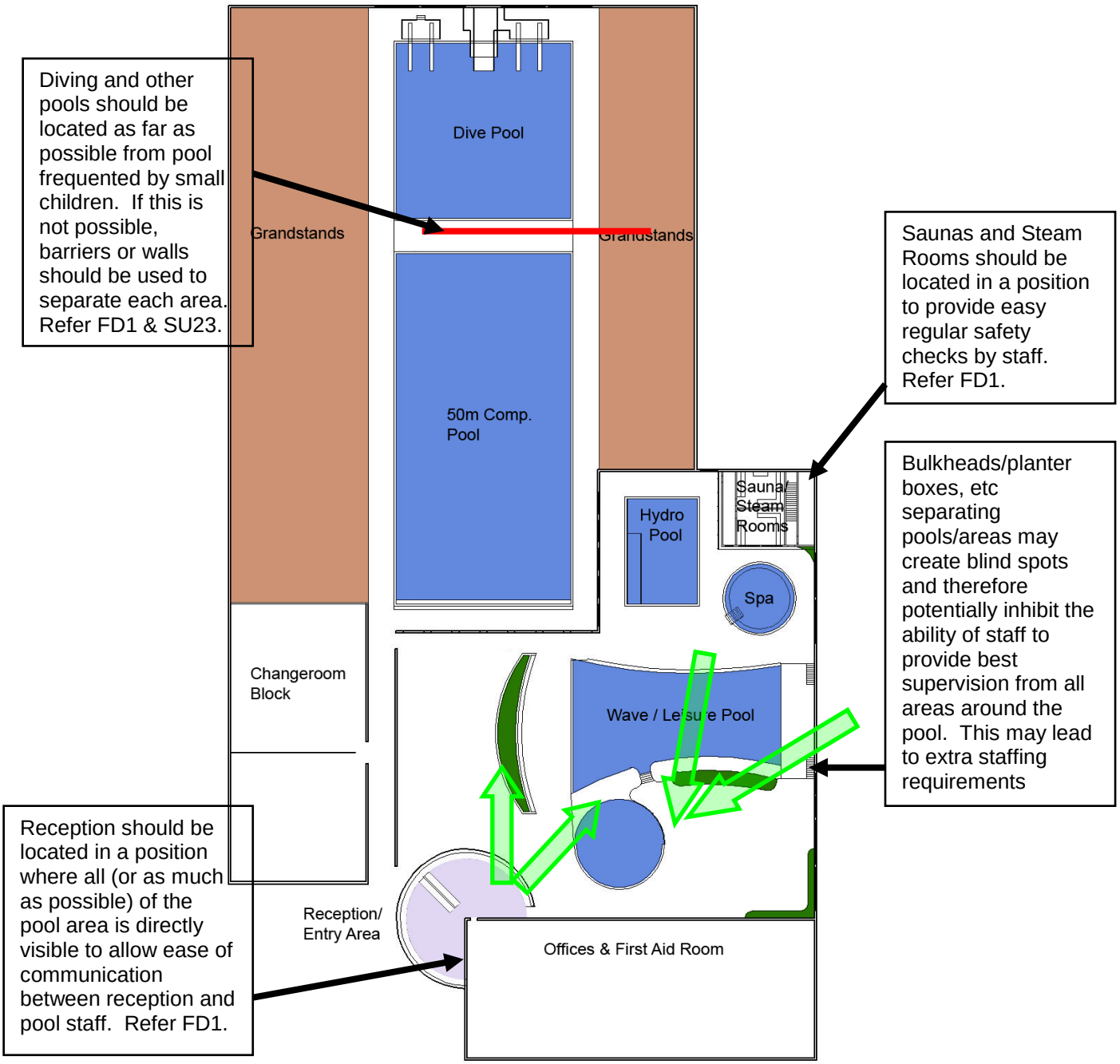
4.4.3 Facility Design Recommendations.

The following diagrams represent a hypothetical Aquatic Facility, and include comments intended to help clarify some of the design recommendations made in the above guidelines.

Traffic Flow / Control considerations



Supervision & Line of Sight Considerations



: Depict “Line of Sight” for staff from different locations within the facility.

4.5 Siting of other Amenities

Consideration should be given to the most appropriate location of certain amenities when designing facilities and the effect this will have on staff supervision. Operators should also consider the following when determining staff supervision procedures.

4.5.1 Reception should be located in such a position, in relation to the pool area/s, to allow for all, or as much as possible, of the pool area to be directly visible.

4.5.2 Saunas and Steam Rooms should be located in such a position to allow staff easy access for periodic checks for safety in these areas.

4.5.3 Ideally, First Aid Rooms should be located in a position no further than 80m from any location within the facility, and should provide easy access to emergency services and/or disabled patients.

4.5.4 Where bridges or other platforms that extend over the surface of the water, such as over rivers or leisure pools, are provided, sufficient clearance should be provided for the intended use of the pool.

4.6 Fittings and Fixtures

4.6.1 Any fixture or fitting in the pool wall (eg. lane rope anchors) and the pool floor (eg. inflatable tie downs) should be fitted flush and have no sharp protruding edges.

4.6.2 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.

4.7 Gutters and Wet Deck

Where a wet deck gutter system is used, it should:

(a) Not allow water to flow on to the pool concourse.

(b) The grate must be neat fitting with no gaps between adjoining grate sections and no raised or buckled slats so as to prevent any possible injury to patrons.

(c) In wave pools the grate should be fixed to prevent dislodging during wave motion.

(d) All grating systems should be flush fitting.

(e) All grating should be installed & maintained with sufficient strength to support the weight of normal traffic.

(f) All grating used should be of a slip resistive nature.

5. References

- Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.
- Building Code of Australia - 2006. Australian Building Code Board.

- Managing Health & Safety in Swimming Pools - February 2003; Health & Safety Commission, England.
- Pool Operations Manual - The Royal Life Saving Society Canada.
- Aquatic Facility Management - 2005; Paul Faucet of Human Kinetics, U.S.A

1. TITLE **DESIGN OF POOL CONCOURSE**

2. DATE ISSUED 1st November 2007 ISSUE: 3

3. PURPOSE To establish safety guidelines for the design of the pool concourse.

4. DESCRIPTION

4.1 Concourse Width

The concourse is the area from the edge of the pool (in wet deck pools from the outside edge of the grating) to the wall or fixed seating or barriers.

4.1.1 The recommended minimum clear width for the concourse should be 2.0 metres. The recommended concourse clear width is 3.0m or greater particularly in the following areas:

- entrance to pool
- adjacent to shallow water
- beach entry areas
- access routes to water slides and splash down pool
- high traffic and circulation areas.

Facility Operators and designers/developers should conduct a Risk Assessment to determine which areas within their particular facility should be considered "high traffic and circulation areas".

4.1.2 Where the concourse width in an existing facility is less than 2m, or less than 3m in high traffic areas, operators should consider strategies to maximise the available concourse space and therefore traffic flow 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.

iii. Procedures for dealing with high traffic situations.

4.2 Concourse Surface

4.2.1 Height Variations

(a) Abrupt changes in floor level in the wet concourse areas should be avoided.

(b) If steps to changing areas are required, handrails and slip resistive surfaces should be provided.

(c) 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.

4.2.2 All wet or potentially wet circulation areas should have a slip resistive and non-abrasive surface conforming to the recommendations of Standards Australia Handbook "HB 197 - An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials".

4.2.3 The concourse should be constructed to facilitate drainage or flow of water to prevent pooling of water.

4.2.4 All concourses should be free from lips or raised edges, particularly where surface changes (eg tiles to wet deck) unless otherwise clearly identified by contrasting colour or hazard identification markings.

4.2.5 Wall surrounds should not present a hazard to bathers. Projecting structural pillars or piers should be avoided.

4.3 Supervision Points

4.3.1 (a) The layout of the water spaces 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.
(b) These vantage points should be in direct visual and audible contact with either a reception or administration area of the complex.

4.3.2 Placement of barriers on the pool concourse should not obstruct lines of sight from the main supervision points.

4.3.3 The layout of the pool concourse should enable supervising staff to move around freely without losing visual contact with water areas.

4.3.4 (a) Planter boxes and other features on the concourse should have no sharp edges, nor should they interfere with sight lines for supervision. Where possible a slip resistive surface should be used.
(b) Such items should not reduce the concourse width, restrict circulation flow or restrict emergency access and egress.

4.4 Seating

4.4.1 (a) Where seating is provided on the concourse, the minimum concourse width remaining after allowance for leg room should be 2.0m (refer also Section 4.1 above).
(b) Where retractable seating is provided the minimum concourse width is 1.2m when seating is in place.

4.4.2 Moveable seating or other furniture should not be placed in areas adjacent to the pool, where there is a likelihood of these being used as diving platforms.

4.5 Marshalling Area

4.5.1 A marshalling area should be provided adjacent to the learner pool or section of the main pool which is used for lessons. This should enable supervising staff to assemble

learner groups on the concourse without impeding the circulation flow of other users and staff.

4.5.2 This area should be located away from deep water or high traffic areas.

5. References

- Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.
- Building Code of Australia - 2006. Australian Building Code Board.

1. TITLE **POOL DEPTH MARKINGS**

2. DATE ISSUED 1st November 2007 ISSUE: 3

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

4. DESCRIPTION

4.1 (a) All depth markings should be provided in metric measurements.
(b) If used, it is desirable to provide imperial measurements in brackets next to the metric measurements.
(c) Markings should be in metres, eg. 0.9m, 1.2m, 1.5m, 1.8m, 2.0m.

4.2 The markings should be in numerals and letters at least 100mm in height.

4.3 Markings should be placed in a position where they can be seen from the water and from the pool side.

4.4 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 the surrounding concourse.

4.5 Any sharp change in gradient should be clearly marked and sign posted. (refer also Guideline FD1).

4.6 (a) In shallow water - 1.2m deep or less - the words CAUTION SHALLOW WATER and Australian Standard Shallow Water symbol (Sign *WS,31* in the National Aquatic & Recreational Signage Style Manual) should be displayed.
(b) Additionally, in water less than 1.8m for "wet-deck" pools or less than 2.0m for pools with surrounding walls greater than 380mm above the water level, Australian Standard "No Diving" (Sign *R18* in National Aquatic & Recreational Signage Style Manual) signs as well as the words NO DIVING should be displayed. (Refer also Guideline FD4, FD6 and FD 8).

4.7 (a) All pool depth markings should be of a strong contrast against the surrounding areas.
(b) Pool depth markings should be installed to minimise fading or damage from bather traffic or from cleaning.

5. References

- National Aquatic & Recreational Signage Style Manual - Third Edition; Royal Life Saving Society of Australia, Surf Life Saving Australia.
- AS 2416 - 2002; Design and application of water safety signs.

1. TITLE **ADVISORY SIGNS**

2. DATE ISSUED 1st November 2007 ISSUE: 3

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

4. DESCRIPTION

4.1 Standards Australia has developed guidelines for the design and application of water signs for surf beaches (refer AS 2416 - 1985). 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.

4.2 The Standards Australia signs which should be used in appropriate areas are:

- beware of deep water (refer AS2416 sign 216, National Aquatic & Recreational Signage Style Manual sign WS,31)
- beware sudden drop off (refer AS2416 sign 215, National Aquatic & Recreational Signage Style Manual sign WS,32)
- beware shallow water - do not dive (refer AS2416 sign 228, National Aquatic & Recreational Signage Style Manual sign WS,30)
- Children must be Supervised (National Aquatic & Recreational Signage Style Manual Sign SM,5)

4.3 Other signs which may be applicable to centres include:

- slippery when wet
- cleaning in progress
- pool closed
- lane closed
- advisory signage indicating what is allowed and who is allowed access to what area
- warning - changing water conditions (wave pools, rivers and features).

4.4 Any signs which are not provided for in AS2416 -2002 (or any revision thereof), should conform to the design, location and legibility advice given in that Standard.

4.5 The colour and manufacture of signs should conform to the co-ordinates specified in AS2342 (part 5 and 7).

4.6 Deep and shallow ends of a pool should be clearly marked with the words "Deep Water" or “Deep End” and "Shallow Water" or “Shallow End” as appropriate, in large and easily visible letters.

4.7 (a) All markings must be of a strong contrast against the surrounding areas.

(b) It is desirable that markings be installed to minimise fading or damage from bather traffic or from cleaning.

(c) Consideration should be given to developing an overall signage strategy for facilities in order to minimise the number of individual signs and prevent signage clutter.

5. References

- National Aquatic & Recreational Signage Style Manual - Third Edition; Royal Life Saving Society of Australia, Surf Life Saving Australia.
- AS 2416 - 2002; Design and application of water safety signs.

1. TITLE **DESIGN OF POOL ACCESS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish guidelines for the safe design of swimming pool entry and exit.

4. DESCRIPTION

4.1 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.

4.2 Railing

4.2.1 Handrails should be provided at all entry/exit steps.

4.2.2 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.

4.2.3 Barrier rails should be provided to prevent swimmers from jumping from the concourse on to steps or ramps.

4.2.4 Handrails should be provided on both sides of a ramp.

4.2.5 Steps which may be frequented by aged or frail persons should be provided with handrails on both sides in accordance with AS 1428.1.

4.2.6 For extra wide steps, it is recommended that handrails be provided at intervals of between 2.0m to 3.0m.

4.3 Steps

4.3.1 (a) Entry/exit climb outs and steps should be provided on both sides of each end of the pool.
(b) For longer (50m) pools these should be provided at the midpoint of each side.

4.3.2 (a) Entry / exit climb outs should be provided on both sides of the deep end of a wave pool.
(b) During wave motion, entry to the pool at climb outs should be prohibited.

4.3.3 Vertical (rise) and horizontal (tread) edges of steps should be a contrasting colour to aid entry and exit from the pool.

4.3.4 Steps should have rise and tread conforming to local building regulations and have slip-resistive and non-abrasive surface finishes.

4.3.5 For access to learner or toddler pools wider steps with shallow risers (Approx. 150mm) are recommended.

4.4 Leisure Pool Access

4.4.1 For irregular shaped leisure pools adequate entry and exit areas should be provided.

4.4.2 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.

4.4.3 Beach entry areas should be visually distinguishable from the pool floor.

4.5 Ramps

4.5.1 Where disabled access is provided via a ramp, this should enter the pool at the shallowest end.

4.5.2 Gradient should be no steeper than 1:14.

4.5.3 Ramps greater than 9m in length should have landings at regular intervals in accordance with AS 1428.1 - 2001.

4.6 Lifting Devices

Special lifting devices which assist swimming pool entry and exit for persons with disabilities require specific access considerations such as height, width of concourse, free lateral and circular movement (refer also Guideline FD19).

5. References

- Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.
- Building Code of Australia - 2006. Australian Building Code Board.

1. TITLE **SWIMMING LANE DESIGN**

2. DATE ISSUED 1st November 2007 ISSUE: 3

3. PURPOSE To establish safety guidelines for safety in the design of swimming lanes for lap swimming, and recreational swimming.
Note: Where pools are to be used for competitions and competitor training, reference should be made to the current edition of the FINA Handbook for recommended swimming pool dimensions and lane design.

4. DESCRIPTION

4.1 Swimming Lanes

4.1.1 Where lanes are provided for lap swimming a minimum depth of 900mm is recommended where tumble turns are expected to be performed.

4.1.2 When lane ropes are used they should not present a hazard to the public with sharp edges, or fittings.

4.1.3 Optimum lane width for lap swimming is 2500mm.

4.1.4 Fixtures for lane ropes should allow for minimum 2 way lap swimming lane width of 2000mm. Narrower lanes down to 1500mm may be provided for educational or recreational program activity.

Note 1: Slip resistive surfaces should be used in water depth less than 1600mm
Note 2: Lane width measured anchor point to anchor point.

4.1.5 Lane markings shall be of a dark contrasting colour, placed on the floor of the pool in the centre of the lane.
(a) Line width should be minimum 200mm with a maximum of 300mm
(b) Line length should be:
- 46 metres for 50m pools
- 21 metres for 25m pools

(c) Lines should finish 2000mm from the end wall of the pool
(d) Lines should finish with a distinctive cross line 1000mm long and of the same width at each end.
(e) For 50m pools constructed after January 1st 2006, cross lines 500mm long should be placed 15m from each end of the pool.

4.1.6 Target lines should be placed on the end walls or touch panels in the centre of each lane. Target lines should be the same width as the lane marking line.

(a) These should extend without interruption from the pool edge to pool floor.
(b) A cross line should be placed 300mm under the water surface. This line should be 500mm long.

Note 1: 300mm should be measured to the centre point of the cross line.
Note 2: Touch panels cross lines should extend the whole depth of the touch panel.

4.1.7 Colour markings should be use on lane ropes to identify the 5000mm mark from both ends of the pool.

4.2 Backstroke Turn Indicators

Definition: Flagged ropes suspended across the pool 5000mm in from each end of the pool, and greater than 1800mm above the water surface, with consideration given for sufficient clearance for the safe use inflatables and other equipment while still allowing lap swimming in other lanes of the pool.

These should be in place for any pool when used for lap/competitive swimming.
(a) The backstroke turn indicator support poles should be removable.
(b) The recess into which the support pole is inserted should be flush with the surface.
(c) The flag colour and design should be visible from the water and be contrasting with the facility surrounds.

4.3 Automatic Timing Equipment (Refer Electrical Safety Guideline)

4.3.1 Touch Panels

(a) The touch panels should have no sharp edges.
(b) The installation system for portable touch panels should have no sharp or protruding fittings.
(c) The touch panels should not present the possibility of electric shock.
(d) Target lines should be provided on the touch panels as per 4.1.6, and should extend the entire depth of the panel.

4.3.2 Cords and Connections

(a) Cords used for automatic timing should not present a trip hazard to users.
(b) Connection housings should be water proof and be located where they do not present a trip hazard to users.

5. REFERENCES

- Guideline FD 24 Design of Starting Blocks (Starting Platforms)
- Guideline SU24 Safe Water Entry for Competitions (Competitive Starts)
- FINA Handbook - 2005-2009; Federation International de Natation.
- Diving in Swimming Pools and Open Water Areas- 1998; Institute of Sport and Recreation Management, England.

1. TITLE **MOVEABLE BOOMS (BULK HEADS)**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide safety guidelines on the design and installation of moveable booms.

4. DESCRIPTION

4.1 Moveable booms are installed in swimming pools to allow flexible division of the water space. Moveable booms come in a number of configurations:

- narrow (approximately 500mm wide)
- medium (approximately 1000mm wide) with starting blocks facing in one direction
- large (approximately 1500mm to 2000mm) with starting blocks facing in both directions
- top of boom flush (slightly above) with water surface
- top of boom raised above (approximately 300mm) the water surface.

4.2 The boom should be designed to prevent entrapment of people and equipment.

4.3 The boom should be designed in such a way that regardless of the primary method of movement it may be moved normally while not compromising employee health and safety.

4.4 An electrically movable boom should be connected to an electrical circuit fitted with appropriate earth leakage protection.

4.5 When in situ, the boom should be able to be firmly anchored in place.

4.6 The surface of the boom should be slip resistive.

4.7 For competition pools, the boom must be rigid and not allow flexing in the middle lanes when struck by swimmers.

4.8 Moveable booms which can be raised above the pool or lowered to the pool floor need special health, safety and supervisory design considerations.

4.9 Moveable booms fitted with Curtains or barriers that can be lowered to the pool floor may create voids and/or other entrapment hazards, and may require special safety and supervisory design considerations.

4.10 Maintenance of Booms and associated equipment

Moveable booms and associated equipment should be regularly checked - at least annually - for degradation of surface materials, mechanical and structural integrity which may pose a threat to either the operators and the users of the pool. Consideration should be given to issues such as, but not limited to;

(a) Risk of entrapment,

(b) Electrical Safety,

(c) Risk of injury to operators while moving,

(d) Risk of injury to users of the pool (eg. Sharp edges which could potentially cause cuts and abrasions when contacted by users),

5. References

- Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.
- Building Code of Australia - 2006. Australian Building Code Board.

1. TITLE **DIVING TOWERS, SPRINGBOARDS AND POOLS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish guidelines on safety considerations in the design of diving towers, springboards, and diving pools.

4. DESCRIPTION

The dimensions for the design and construction of diving pools, platforms and springboards are shown in the FINA Handbook.

The use of diving facilities within a multi purpose aquatic leisure venue will also have influence on design.

4.1 Platforms and springboards should be provided with a satisfactory slip resistive surface.

4.2 Springboards

(a) Springboards should be installed either side of the platform tower.

(b) Springboards should not be installed on opposite or adjacent pool sides to each other.

(c) Springboards should not be installed under any other springboard or platform or other obstruction. Overhead clearance should be a minimum of 5.0m.

(d) Springboards should be fitted to the fulcrum to ensure maintenance of a central aspect within the structure.

4.3 The following pool depths - adapted from the FINA Handbook 2005 - 2009 - are recommended in relation to diving facilities:

		Springboards		**Platforms**	
		1 metre	**3 metres**	**1 metre**	**3 metres**
Depth of Water at Plummet	Minimum	3.4m	3.7m	3.2m	3.5m
	Preferred	3.5m	3.8m	3.3m	3.6m

Further recommendations - such as forward clearance at the above pool depths for springboards and platforms of different heights - should be observed. Refer: FINA Handbook 2005 - 2009. Refer Part IX, Facility Rules: Dimensions for Diving Facilities.

4.3 Diving towers should be offset with no overhead obstruction. The minimum offset between midpoints of adjacent 1m platforms or springboards is 2.0m, with greater separation required for 3m, 5m 7.5 and 10m platforms and springboards. Refer FINA Handbook for all specifications.

4.4 1m Diving platforms and boards should be provided at least 2.5 metres clear of the pool walls, with greater distance required for 3m, 5m, 7.5m and 10m platforms and springboards. Refer FINA Handbook for all specifications.

4.5 Diving Pools

(a) The diving pool due to its greater depth should have its walls and floor finished in a light colour.
(b) The ceiling above the diving pool should be finished in a contrast colour to that of the pool to allow diver orientation during descent.
(c) A spray of water on to the pool surface (mechanical agitation) is advisable for competition to avoid diver distraction from glare and light reflection and to allow a diver to identify the surface of the water.
(d) Ladders or climb outs allowing for prompt exit from the pool should be provided directly opposite, and in large diving pools adjacent to, the diving tower or springboards.
(e) In outdoor facilities where diving pools are used for a range of competition and recreational activities, they should be isolated with approved safety fencing.

4.6 Handrails

(a) Handrails should extend along the edge of the platform or springboard structure to within 0.8m of the edge of the platform, except for 1m platforms & springboards where they should extend to level with the pool edge.
(b) The vertical gap between horizontal handrails should not be greater then 0.33m.
(c) Handrails should be provided on all ladders and stairs leading to the diving board. This is in addition to the rail on which the rungs or steps are affixed.
(d) Handrails should be slip resistive.

4.7 The diving platform or springboard should extend over the pool edge for a least 1.5m, and over platforms directly underneath for at least 0.75m.

4.8 (a) Vertical ladders should not be provided for diving boards and platforms higher than 1.0m.
(b) Stairs are preferred with diving towers.

4.9 Steps and ladders leading to diving facilities 3.0m or more above the pool surface should be installed at not more than 50º from the horizontal.

5. References

- FINA Handbook - 2005-2009; Federation International de Natation.
- Diving in Swimming Pools and Open Water Areas- 1998; Institute of Sport and Recreation Management, England.
- Building Code of Australia - 2006. Australian Building Code Board.

1. TITLE **WAVE POOL DESIGN**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide guidelines for the design of wave pools.

4. DESCRIPTION

The wave pool is usually a fan shaped pool varying in both surface area and depth, sloping from a beach to between 1.6m and 2.0m at the wave generation end. Waves are created by computer controlled wave generators using either mechanical paddles, water pressure or air pressure. The computer controls the wave frequency, amplitude, pattern and cycle duration.

4.1 Pool Floor

4.1.1 The gradient of the pool floor will determine wave shape characteristics and should be gently sloping at a maximum gradient of 1:14.

4.1.2 The pool floor should have a slip resistance rating conforming to the recommendations in the Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials

4.1.3 The pool floor surface should be non - abrasive.

4.1.4 (a) Visual indication of the pool's change in depth should be provided where visible from within the pool and from all entry points.
(b) It is recommended that measures are taken to ensure that an area of at least 1.0m adjacent to the wave generating end of the pool is kept clear of swimmers to avoid risk of entrapment or injury.

4.1.5 A beach without steps or small lips is recommended.

4.2 Islands, rocks or other water features should not be installed in wave pools, particularly in the wave breaking zone, where water movement could wash a bather against a solid object possibly causing injury.

4.3 Entry and Exit

4.3.1 There should be no change in level between the concourse and pool at a beach entry.

4.3.2 (a) Steps or ledges are not recommended along the sides of wave pools as they promote bather entry / exit which can be dangerous during periods of wave motion.
(b) Where provided, steps should allow entry into water at a static water depth of less than 400mm.

(c) Steps and ledges should not protrude into the pool past the edge or pool wall. Recessed steps or climb outs with non - slip finger - hold lips are recommended.
(d) Non-protruding pool exit steps should be provided at the deep end for bathers in difficulty.
(e) Adequate access for supervising personnel should be provided to allow rescues to be performed unencumbered.

4.4 Controls

4.4.1 Poolside emergency stop button/s should be provided.

4.4.2 (a) Poolside manual / automatic wave generation controls should be provided.
(b) The controls should be provided in a location from which the operator can simultaneously control and view the entire wave pool.
(c) The controls should have security allowing operation by lifeguards only.

4.4.3 A wave generation master off switch should be located immediately adjacent to the wave plant room door to ensure wave plant operation cannot be initiated poolside while staff are inside the wave generation plant room.

4.5 Signage

4.5.1 Depth

Depth signage similar to that used in conventional pools should be used. (refer also Guideline FD-3).

4.5.2 Wave Pool Specific

Additional signage specific to wave pools is also required. This should include items such as:
(a) Warning: Changing water conditions.
(b) It is not recommended to enter the waves if
(i) Pregnant
(ii) Had recent surgery
(iii) Have a known heart condition
(iv) Have known back condition

And may also include other items such as;

(v) Do dive into waves
(vi) Do not approach deep end walls during waves - in cases where there may be a risk of entrapment from wave generating wall.

4.6 Audible and Visual Indicators

4.6.1 An audible alarm indicating the impending start of waves, usually a 1 minute warning, should be provided.
Note: Lifeguards should be alert as the alarm could encourage bathers to run from all parts of the venue to the wave pool.

4.6.2 Alarm

A visual and audible alarm should be raised in the event that an emergency stop button is operated.

4.7 Water Quality

4.7.1 Bather Load

Wave pools usually require a higher water turnover rate than conventional swimming pools due to the usual greater bather load and bather activity.

4.7.2 Sanitation

Wave pools may require higher water treatment rates to maintain effective oxidation and adequate residual levels due to movement of the pool water. Chlorine, PH and other such dosing controllers installed should be capable of coping with the extra requirements specific to wave pools.

4.7.3 Water Clarity

Wave Pools - and associated filtration systems - should also be designed to provide sufficient water clarity taking into consideration the potential for increased bather loads and bather activity. Operators should ensure water clarity remains sufficient to easily sight the bottom of the pool and complies with relevant State Health Department Codes of Practice.

5. References

- Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials
- Building Code of Australia – 2006. Australian Building Code Board.
- Managing Health & Safety in Swimming Pools - 1999; Health & Safety Commission, England.

1. TITLE **RIVER DESIGN**

2. DATE ISSUED 1st November 2007 ISSUE 2

3. PURPOSE To establish safety guidelines for the design of moving water in channels and designated rivers.

4. DEFINITION

Rivers are level channels of moving water created by pumping water at predetermined flow rates. The unidirectional channels are between 1.5m and 3.0m wide, with water from 0.75m to 1.2m deep and a length determined by available space usually between 20m and 50m indoors. 'Lazy rivers' may be defined as water moving less than 1.5m per second and 'rapid rivers' as water moving greater than 1.5m per second.

5. DESCRIPTION

5.1 Gradual Depth changes at both river exit and entry should be at a gradient of 1:14 and should be slip resistive. Steps should not be used.

5.2 Walls and Floor

5.2.1 The river should be finished with smooth walls and floors to reduce the risk of cuts, bruising and abrasions to bathers as they brush against or are forced against them.

5.2.2 (a) The height from static water level to the pool edge should be such that the water is retained within the river channel.
(b) A bather should also be able to grasp the edge should the need arise.
(c) Consideration should be given to bather safety and their ability to support themselves above water level when in difficulty. Should the height and finish (flat tiles) of the pool edge be such that some bathers may have difficulty in reaching or grasping it, consideration should be given to the provision of a flexible rope system along one wall of the river. The rope fixing system should be recessed into the pool wall. The rope system is preferable over the alternate solid stainless steel or similar hand rail due to the risk of bather impact and entrapment.

5.3 Water Flow

5.3.1 The water should only flow in one direction.

5.3.2 The water flow should not create an undertow, eddy currents or cross currents. Should variable speed flow rates be available and used resulting in the river being either lazy or rapid (as defined above), appropriate bather notification must be used to indicate prevailing water conditions. This may include signage or audible notification.

5.3.3 An emergency stop button must be located within close proximity for use by facility supervisors and lifeguards in emergency situations.

5.3.4 **C**ircular style rivers with outlets and inlets in close proximity require special consideration as they may create a vortex. This effect may continue with bather movement alone even when booster pumps are switched off. Some bathers may be unable to escape the flow.

5.3.5 Water flow created by wave motion will also require special consideration including:
(a) Waves entering both river inlet and outlets thereby creating a higher wave within the river at the meeting points
(b) Possible higher pool edges to reduce the chance of flooding of pool concourse or planters
(c) The effect on wave motion caused by depth of water and width of river.
Note: Designers should give consideration to the use of models to ascertain possible water movements during the pool design phase.

5.4 Entry and Exit

5.4.1 No obstruction such as hand rails or entry / exit ladders or steps should enter into or protrude into a river.

5.4.2 Suitable free deck space adjacent to the river should be provided for lifeguard supervision and access.

5.5 Bridges and Overhangs

5.5.1 In cases where objects such as rocks or bridges overhang the surface of the River, it is recommended that sufficient clear space for the intended use of the river is provided above the static water level. Users should be able to easily pass under the overhanging object without risk of impact to their head while standing on the pool floor.

5.5.2 This height should be increased where wave action enters the river.

5. References

- Building Code of Australia - 2006. Australian Building Code Board.
- National Aquatic & Recreational Signage Style Manual - Third Edition; Royal Life Saving Society of Australia, Surf Life Saving Australia.
- AS 2416 - 1995; Design and application of water safety signs.
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.

1. TITLE **WATER FALLS AND SHOWER CURTAINS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide guidelines for the design of water falls and shower curtains.

4. DESCRIPTION

4.1 Falling water should be designed as an aesthetically pleasing attraction under and through which bathers can play. As such the volume and velocity of falling water should not harm the bather.

4.2 At the outlet falling water should be the same temperature or higher, and should be sourced from the same circulation system, as the water into which it will fall

4.3 The visual density of the falling water should be such as to allow a bather to be distinguishable while situated behind it.

4.4 Disturbance to the surface of the pool caused by the falling water should be such as to allow a bather to be distinguishable while situated underneath the waters' surface. *Note: Lighting, pool wall and floor colour are also contributing factors to ease of supervision.*

4.5 Controls

(a) Stop and start controls for all falling water features should be placed in such a position to allow the operator clear sightlines over the area under the feature's influences and beyond.

(b) Each water feature should be able to be individually controlled.

4.6 Mixing Water

It is not recommended for water from one treatment system to enter water circulating in a different water treatment system. This may occur in some older pools, however it may lead to difficulties in retaining correct water balance and chemical levels, and extra care should be taken to ensure the water remains compliant with relevant state Health Department regulations in relation to water quality, etc.

5. References

- Managing Health & Safety in Swimming Pools - 1999; Health & Safety Commission, England.
- Pool Operators Handbook - 2000; Department of Human Services, Victoria.
- Aquatic Facility Management - 2005; Paul Faucet of Human Kinetics, U.S.A.

1. TITLE **WATER FEATURE DESIGN**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide guidelines for the design and placement of water operated features.

4. DESCRIPTION

Moving water such as water spouts and water cannons provide not only fun or an aesthetically pleasing environment but also a noisy environment.

4.1 Water Cannons

4.1.1 The force of water from a water cannon should not be such as to cause harm if inadvertently aimed at another bathers body, in particular the face.

4.1.2 Appropriate signage should be displayed warning against aiming water at bathers faces.

4.1.3 The scope (range, horizontal and vertical movement) should be restricted to water areas only.

4.1.4 Sufficient space should be allowed so that water under pressure from features cannot reach areas or fittings designed to remain dry.
(eg. ceilings, lights, speakers).

4.2 Water Spouts (Vertical) or Geysers

4.2.1 Water spouts or geysers should not be turned on while bathers are sitting or standing on or near the water outlet.

4.2.2 The height to which the water spout rises, and hence the pressure of the water should be balanced between the aesthetic appearance and the management of potential risk.

4.3 In-Water Features

4.3.1 In-water features, particularly fibreglass or glass reinforced plastic (GRP) figures and animals need special attention including;

(a) Height above water surface and ability to climb onto and jump from.
(b) The need for a slip resistive and non-abrasive surface.
(c) The integration of water spouts (refer also Section 4.2 above).
(d) Possible interruption to sight lines.
(e) Inability to get caught on or in the feature.

(f) Absence of sharp or protruding fittings, (eg elephant trunk, car steering wheel).

4.3.2 Electrical Connection

(a) It is recommended that electrically operated devices not be used in conjunction with a water feature.

(b) Where electrical devices have been incorporated into a water feature, the electrical voltage should be less than 24 volt and the 240 volt primary circuit should be connected via an earth leakage protection device.

4.4 Feature Control

All features should be controlled via a control panel situated adjacent to the pool or pools in which or into which the features operate (refer also Guideline FD11), and should be able to be immediately shut down via an Emergency Stop Button.

5. References

- Managing Health & Safety in Swimming Pools - 1999; Health & Safety Commission, England.
- Pool Operators Handbook - 2000; Department of Human Services, Victoria.
- Aquatic Facility Management - 2005; Paul Faucet of Human Kinetics, U.S.A.

1. TITLE **INTERACTIVE WATER PLAY EQUIPMENT**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish guidelines for the design of interactive water play equipment.

4. DEFINITION

Interactive water play equipment is a water orientated playground with equipment releasing water under automatic control or by patron operation of levers, wheels and ropes. The equipment is usually installed in water of between 0.0m and 0.4m depth.

5. DESCRIPTION

5.1 Surfaces on which pedestrian traffic is expected should be of a high standard slip resistance and non-abrasive.

5.2 (a) Integrated slides should have water flow to aid movement.
(b) Water slides may require a soft padding overlayed on the pool floor ensuring a soft landing for riders.
(c) It is recommended that slides be capable of being sealed off for crowd control and maintenance activities.

5.3 Pool

5.3.1 The pool in which the equipment is installed should:
(a) Have high standard slip resistive floor
(b) Should be large enough to house the equipment leaving adequate space between the pool edge and the equipment.

5.3.2 Allowance should be made for swinging items, water slide outlets and other equipment which may propel patrons near to the pool edge.

5.3.3 Depth signage must be clearly visible from all areas within the pool and the surrounding concourse.

5.3.4 It is recommended that additional signage be displayed at intervals around the pool stating the conditions of use and such hazard warnings as;
(a) CAUTION - Shallow Water (refer AS2416 sign 213, National Aquatic & Recreational Signage Style Guide sign WS,30)
(b) CAUTION - No Running (refer National Aquatic & Recreational Signage Style Manual sign RS 7)

5.3.5 The pool should only have round edges and gentle curves. Abrupt changes in pool concourse levels or edges should be avoided.

5.4 Zero Depth Splash/Spray Grounds

Zero depth, spray and/ or splash grounds collectively have mechanically controlled water outlets (below and/or above ground), with a structural concrete base and no standing water.

5.4.1 Due to there being no standing water in Zero Depth Splash Grounds, it is not necessary to display Depth markers, Shallow Water or No Diving Signage.

5.4.2 Although standing water is absent, disinfection control of water should comply with the relevant State Health Regulations.

5.4.3 "Soft fall" surfacing is to be installed. The surfacing is to be finished with an AS/NZ compliant "Solid Surfacing" compound rather than a "Loose Fill" or shifting material – refer to AS/NZS 4486.1:1997

5.4.4 Solid surface compounds should be chemical and slip resistive and allow adequate drainage to avoid water pooling. Surface should finish flush with the adjacent concourse, and all drainage grates and below ground water feature outlets (e.g. sprays from surface level).

5.4.5 Solid surfacing compounds are to be a contrasting colour to the adjacent concourse surrounds. Concourse widths should comply with Guideline FD1 Design of Pool Concourse. The splash/ spray ground surface is not considered part of the facility concourse.

5.4.6 All below ground outlets should be enclosed and not allow entrapment of body parts. Fittings should be anchored to the physical concrete structure limiting potential shifting or protruding above the soft fall. These fittings should be non-corrosive as to avoid rusting and deterioration.

5.4.7 Periodic maintenance should be undertaken to ensure that the Solid Surfacing has not detached away from the underlying concrete base and does not shift underfoot and/or leave water feature fittings exposed or raised.

5.4.8 Consideration should be given to not installing trigger activated water features (e.g. water cannons) due to the potential of deliberately or inadvertently spraying other unknowing parties. Play structures and platforms that are designed to be climbed and/or elevate from should not be installed.

5.5 Equipment

5.5.1 (a) The equipment should be designed to carry a predetermined load.

(b) The maximum number of people on the structure at any one time should be marked on the equipment and visible from at least one point on the pool deck.

5.5.2 The equipment should be constructed from non-corrosive materials.

5.5.3 Where wheel and lever valve controls are used they should not protrude into traffic flow areas.

5.5.4 Water pressure controls should restrict the water from reaching onto or splashing the pool concourse.

5.5.5 Water should not be at a pressure which may result in personal injury.

5.5.6 Stairs providing access to the equipment should:

(a) have rise and tread appropriate to the size of the proposed users

(b) have handrails at heights commensurate with the proposed users

(c) be of a high standard slip resistance.

5.5.7 The equipment should have barriers preventing falls into shallow water.

5. References

- AS/NZS 4486.1 - 1997; Playgrounds and playground equipment Part 1: Development, installation, inspection, maintenance and operation.
- AS/NZS 4422 - 1996; Playground surfacing - Specifications, requirements and test methods.

1. TITLE **DESIGN OF MOVEABLE FLOORS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish guidelines on safety considerations on the design of moveable floors.

4. DESCRIPTION

4.1 Swimming pools with devices which raise and lower the pool floor whether in full or in part require special safety and design considerations.

4.2 Signage

4.2.1 Appropriate signage indicating the depth of the pool at any time should be clearly visible from all pool access points.

4.2.2 Depth signage should have numerals and letters at least 100mm in height.

4.2.3 The signage should be synchronised with the height of the floor.

4.3 Sloping / Moveable Floors

4.3.1 Moveable floors which have the ability to slope on an angle should have adequate signage along the length of the slope to indicate the actual depth at intermediate depths of 0.3m variation. This signage is in addition to depth signs at the deep and shallow ends.

4.3.2 Moveable floors which slope should be designed with pool orientation in mind. The deep side of a sloping moveable floor pool should be oriented away from the shallow end of an adjacent pool.

4.3.3 The slope should be not greater than 1:14.

4.3.4 The surface of the moveable floor should be slip-resistive and non-abrasive.

4.4 Controls

4.4.1 All controls should be located adjacent to both the pool concourse and the pool with the moveable floor.

4.4.2 Controls should be secured and only activated by a lifeguard or other authorised staff.

4.4.3 It is desirable for the floor to move only while the controls are operated manually.

4.4.4 Audible and visual indicators should operate while the floor is moving.

4.5 The concourse width surrounding a pool with a moveable floor should be greater than 3.0m.

4.6 The circulation of water above and below a partially raised floor should ensure maintenance of water quality within appropriate regulations.

4.7 Maintenance of Moveable floors and associated equipment

Moveable Floors and associated equipment should be regularly checked - at least annually - for degradation of surface materials, mechanical and structural integrity which may pose a threat to either the operators and the users of the pool. Consideration should be given to issues such as, but not limited to;

(a) Risk of entrapment,
(b) Electrical Safety,
(c) Risk of injury to operators while moving,
(d) Risk of injury to users of the pool (eg. Sharp edges which could potentially cause cuts and abrasions when contacted by users),

5. References

- Building Code of Australia - 2006. Australian Building Code Board.
- National Aquatic & Recreational Signage Style Manual - Third Edition; Royal Life Saving Society of Australia, Surf Life Saving Australia.
- AS 2416 - 1995; Design and application of water safety signs.
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.

1. TITLE **SHADE PROTECTION**

2. DATE ISSUED 1st November 2007 ISSUE: 4

3. PURPOSE To establish guidelines for the provision of shade for both employees and users.

4. DESCRIPTION

4.1 Landscaping

In open air facilities, the landscaping and choice of trees should provide many areas of shade around a facility. 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 11.00 am and 3.00 pm.

4.2 Awnings / Covered Areas

4.2.1 The provision of awnings and covered areas with appropriate seating is recommended.

4.2.2 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.

4.2.3 It is recommended that shade protection be provided at Toddlers pools and Learn to Swim Pools.

5. References

- Building Code of Australia - 2006. Australian Building Code Board.
- AS/NZS 4486.1 - 1997; Playgrounds and playground equipment - Development, installation, inspection, maintenance and operation.
- Australian Standards Handbook HB 136 - 2004; Safety aspects - Guidelines for child safety.

1. TITLE **ELECTRICAL CONNECTIONS AND FEATURES**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide guidelines on electrical safety considerations in the design of features around swimming pools.

4. DESCRIPTION

4.1 Work on electrical installations and equipment requires specialist skills and should only be carried out by approved or registered employees or trades - people.

4.2 All electrical equipment and conductive material associated with pool shells and the surrounding building should be sufficiently earthed in compliance with Australian/New Zealand Standards AS/NZS 3000:2000.

4.3 Electrical equipment must be kept away from swimming pools.

4.4 In instances where electrical equipment is to be used near swimming pools:
(a) General purpose outlets should be installed at least 3.0 metres distance from the nearest pool and at least 1.0 metres above the floor level.
(b) Water proof covers should be provided over the general purpose outlets (GPO)
(c) GPO should be connected to an earth-leakage protection device that complies with AS 3190, AS/NZS 3175 or AS/NZS 61009.1
(d) Some 3 Phase outlets may not be connected to an earth leakage protection device. Outlets should not be used to power equipment when people are in the water.
(e) Special care should be taken when using equipment such as pumps for Inflatable and Speaker Boxes for Aqua aerobics and the like in close proximity to the edge of the pool. Consideration should be given to such precautionary methods as raising the equipment off the pool floor and/or locking it into place with specially designed mounts, etc. to prevent current transfer to the water both on the concourse and in the pool.

4.5 Feature Lights

Feature lights are used in planter beds/boxes, under water and behind water features eg. water falls. In all situations special precautions are required, such as:
(a) Feature lights should be of a low voltage, typically 24 volts DC or less.
(b) Lights in planter boxes should be insulated so that heat emissions as a result of prolonged use do not burn probing hands or fingers, or do not heat mulch or plants to the verge of ignition (flame).
(c) Lights located under or behind water should have access for maintenance or repair.
(d) Underwater lights must also be of a low voltage.

4.6 Suspended Electrical Features

(a) Electrical features suspended from ceilings or structural framework should be secured to prevent falling.

(b) The electrical connecting cable should be of a short length preventing entry into the water should the feature fall.

4.7 Change Rooms

(a) Hair dryers should not be provided in change rooms and preferably used only in a designated dry grooming area.

(b) All electrical installations in change rooms and toilets should comply with AS/NZS 3000 - 2000, with particular consideration given to separation from water sources such as hand basins and showers, and Earth Leakage Protection devices.

5. References

- AS/NZS 3000 - 2000; Wiring Rules, Standards Australia

1. TITLE **SPECTATOR GALLERIES AND SEATING**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide advice on the design of spectator viewing galleries and seating.

4. DESCRIPTION

4.1 (a) Seating frequently used for competition spectators should be provided with entry and exit to the pool deck.
(b) As well as separate entry and exit to the pool entry foyer, entries to refreshment booths, kiosks and cafes and to toilets should also be provided without impeding traffic flow on the pool deck.

4.2 (a) On concrete and timber benches (bleaches), steps should be separate from the seating areas.
(b) Steps should be slip resistive when both wet and dry.
(c) Step rise and tread should be recognisable from above, below and from the side.
(d) Entry and exit steps and stairs should have a minimum of 2200mm clear overhead height from each step.

4.3 The balustrade or barrier between the seating and the pool deck should be strong, clear and free from sharp edges.

4.4 Retractable seats should not allow entrapment of digits or limbs.

5. References

- Building Code of Australia - 2006. Australian Building Code Board.
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.

1. TITLE **DESIGN FOR SPECIAL NEEDS POPULATIONS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To provide guidelines on safety aspects relating to specific facility design considerations for groups and individuals with special needs.

4. DESCRIPTION

Previous guidelines detailed in this document take into consideration many of the special needs of specific populations including:

- floor and ramp gradients
- slip resistive floors
- handrails

4.1 Change Rooms

(a) Movable seats and benches should be corrosion resistant and regularly maintained.

(b) A change table able to accommodate an adult and carry an adult's weight should be provided.

(c) An audible and visual alarm button should be provided.

4.2 Pool Access

4.2.1 Hoists and Lifters

When installed, hoists and lifters intended for lifting patrons with restricted access into the pool should comply with the requirements in AS ISO 10535 - 2002. Also;

(i) Hoists operated by water pressure should not rapidly lose height when water pressure is lost.

(ii) Hoist controls should be located so as not to cause injury to fingers or hands between the operating switch or lever and the chair.

(iii) Hoists should be positioned to allow for a clear swing including the person riding thereon without any interference from a pool structure or landscaping.

(iv) The installation and design of Hoists and Lifters should not be such to present tripping or other hazards.

4.2.2 Ramps

Ramps intended for the use of special needs patrons should be compliant with the recommendations in FD 5; Design of Pool Access, and the standards within AS 1428.1 - 2001 and/or 1428.2 - 1992, dependant on the use of your facility.

4.3 Visually Impaired Patrons

4.3.1 Doors should be painted to provide at least a 30% contrast between adjacent walls.

4.3.2 Vertical and horizontal surfaces should have at least a 30% contrast difference.

4.3.3 (a) Floors and stairs should be slip resistive.
(b) Floors and stairs should have tactile pathways.

4.3.4 There should be no sharp or protruding edges or protruding fittings and equipment in corridors.

4.3.5 Toilets and change rooms should be identified using clear and large internationally recognised symbols. (refer also AS 1428)

4.3.6 When required, Audible and Visual alarms should be provided to enable the communication of emergency situations to visually and hearing impaired patrons

4.3.7 Tactile surfaces should be provided -
(a) On the approach to the top and bottom of any steps.
(b) At any change of direction in corridors.

4.3.8 Lighting levels need to be of a higher than normal illumination.

5. References

- Building Code of Australia - 2006. Australian Building Code Board.
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.
- AS 1428.2 - 1992; Design for access and mobility Part 2: Enhanced and additional requirements - buildings & facilities.
- AS 2560.2.5 - 1994; Guide to sports lighting Part 2.5: Specific recommendations - Swimming pools.
- AS ISO 10535 - 2002; Hoist for the transfer of disabled persons - Requirements and test methods.
- Disability Discrimination Act - 1992. Human Rights & Equal Opportunities Commission.

1. TITLE **ACOUSTICS WITHIN POOL HALLS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish safety guidelines for the acoustic control within pool halls. Note: This guideline only applies to pools/facilities commissioned after 1 July 1996.

4. DESCRIPTION

4.1 Room Acoustics Comfort and Safety

4.1.1 The control of sound level within pool halls can contribute to the comfort of the users, and safety aspects of activities such as lifeguard directions, emergency signals and public address (PA) announcements.

4.1.2 Reverberation

(a) For a swimming pool space the most significant acoustic consideration is reverberation time. The reverberation time is dependant solely upon the shape and volume of the pool hall together with the surface finishes of the space.

(b) The Australian Standard AS 2107 recommends that reverberation times for an indoor sports area should not exceed 2 seconds in the 500 Hz and 1KHz octaves. It is preferable to reduce the time to between 1.2 and 1.3 seconds.

(c) Care should be exercised in the selection of the various surface finishes used to control room reverberation. Consideration should be given to water resistance, user wear and tear, maintenance and product life.

4.1.3 Mechanical Noise Control

(a) Mechanical ventilation may cause noise in rooms due to either the aerodynamic noise made by the fan or fans, or to the transmission along the air ducts of external noises such as mechanical vibration of equipment.

(b) Mechanical noise should be minimised.

4.1.4 Water Noise

(a) One of the main sources of background noise in swimming pools is the draining of water to the filtration system. This is especially a concern in large pools with a 'wet deck' design. Considerable reduction of this noise can be achieved by constructing the run off trough with a slope on the pool side of about 30º to the vertical. This induces the water to run smoothly into the trough rather than splashing.

(b) The use of water sprays, fountains, water falls and wave machines all add to the noise created by moving water. A balance between an aesthetic environment, fun, effective supervision and moving water should be achieved.

4.2 Public Address (PA) System

The design of a public address system for a swimming pool is important as it forms part of an emergency action plan. Issues critical to the design are:

(a) Output power
(b) Speaker location, number and quality
(c) Speaker control and isolation
(d) Microphone location around building
(e) Emergency override of locally attenuated speakers
(e) Battery back - up
(g) Location of main equipment rack
(h) Operator training.

5. References

- AS/NZS 2107 - 2000; Accoustics - Recommended design sound levels and reverberation times for building interiors.

1. TITLE **LIGHTING OF POOL HALLS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish safety guidelines for the design of both natural and artificial lighting in pool halls. Note: This guideline will apply to pools/facilities commissioned after 1 July 1996.

4. DESCRIPTION

4.1 Natural Light

(a) The use of natural light within pool halls is of utmost importance and correct orientation of the pool hall to the sun is important. Natural light is not only energy efficient, but also maintenance free.

(b) Care should be taken with placement of glazing, particularly to the west and east. (sun is low in the sky, light is difficult to control causing glare across the water surface).

(c) Windows to the north can be controlled via the use of horizontal sun shades, but the light received can be very harsh.

(d) South light however has the advantage of being a softer diffused light source without less problems of glare or harshness.

(e) Light from directly above is preferable as it reduces surface reflection.

4.2 Lighting Level

(a) Lights should be generally located evenly throughout the pool hall to eliminate shadows to the edges of the pool tank. This is less of a problem with “wet deck” pools.

(b) Consideration should be given to the ability to access for maintenance purposes.

(c) For recreational use a minimum illuminance level of 120 lux is adequate, however at least 600 lux should be provided for competition purposes.

(d) If television broadcasts are planned then levels of 1000 to 10,000 lux or higher are required. Reference should also be made to AS 2560.2.5, AS 1680.2.1 and the FINA Handbook.

4.3 Glare

(a) All glare across the water surface should be reduced to a minimum. Not only from the safety aspect of being able to observe all underwater activity, but a glare free environment is highly desirable for competition use.

(b) The shape of the pool hall and its ceiling height can also contribute to glare. A low ceiling height makes it very difficult to achieve even light levels across the water, without placing the lamp over the water surface. Glare may also be reduced by correct angle and location of artificial lighting. (see also maintenance Section 4.4 below).

4.4 Artificial Light

(a) Colour

The colour of light within a pool hall should be correctly balanced. The hall should not only feel comfortable and warm but should also allow natural skin colour to be determined.

(b) Maintenance

Generally, lamps should not be placed directly over the water surface as this can make replacement of globes difficult. A number of mechanical systems of lowering and/or sliding the lamps to the concourse areas, have been used, but serious consideration should be given to corrosion. There are a number of alternative methods currently in use including asymmetric, high bay fittings.

(c) Efficiency

Care should be taken in the selection of any lamp type with its energy usage. The efficiency of any lamp is seriously affected if the ambient air is contaminated and allows dirt to build up on the lamp lens. Generally temperature does not have any effect, but high humidity can cause corrosion within the lamp itself.

5. References

- Building Code of Australia - 2006. Australian Building Code Board.
- AS 1428.1 - 2001; Design for access and mobility Part 1: General requirements for access - New building work.
- AS 2560.2.5 - 1994; Guide to sports lighting Part 2.5: Specific recommendations - Swimming pools.

1. TITLE **WATER SLIDE (FLUME) DESIGN**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish safety guidelines for the design of water slides and flumes in aquatic facilities.

4. DEFINITION

A water slide is defined as a slide which begins more than 2 metres above the surface of the landing pool. It often may use water to reduce rider friction and facilitate movement. In some countries the term flume is used to describe certain types of water slides. A water slide may be provided singularly, or as part of a multiple unit; and may be straight or incorporate bends and curves in any number of configurations. Australian Standard AS 3533 also refers.

5. DESCRIPTION

5.1 General

The design of any water slide or flume should meet relevant legislation applicable to the State and locality in which it is installed.

5.2 Tower and Stairs

(a) Straight run staircases with landings should be used. Spiral staircases are considered inappropriate.

(b) Stairs should be wide enough to allow easy passage of two people with hand rails on both sides (refer AS 1428.1).

(c) Careful consideration should be given to reduce the possibility of falls from towers. Effective railing and barriers should be used (refer AS 1657).

(d) The structure should be designed and constructed to be easily capable of withstanding maximum loadings, giving full consideration to queuing (refer AS 1657).

5.2.1 Marshalling on Towers and Stairs

The number of patrons queuing on the Towers and Stairs should be restricted to a number specified by the manufacturer/designer. If this information is not available - as may be the case with older Water Slides;

(a) a Risk Assessment should be undertaken to determine the maximum safe number of patrons, with consideration given not only to loading but also to access/egress.

(b) or otherwise consideration should be given to establishing a marshalling area at the base of the stairs.

5.3 Launch Area

(a) All floors and steps should be well drained, slip resistive and non-abrasive with similar considerations to those of the pool concourse as detailed in FD2.
(b) Suitable handholds should be provided at the entry (summit) to enable riders to position themselves for descent.
(c) The entry area should be designed so that running starts are avoided.
(d) The landing should be large enough to comfortably accommodate a supervisor and a rider.

5.4 Speed

Water Slides should maintain the speed of the rider sufficiently such that at any possible attainable speed, the rider should be retained within the slide.

5.5 Height and Length

The ratio of height and length of a slide is a major factor affecting speed. The gradient should be such that the speed is controlled to a level appropriate to the radius of the turns and the size and depth of the exit/splash pool.

5.6 Bends

It is recommended that sharp turns in quick succession, especially in conjunction with accelerator drops, be avoided.

5.7 Water

(a) Sufficient water flow should be provided to reduce friction.
(b) Water should be treated and maintained in accordance with local health regulations.

5.8 Slide Exit and Landings

(a) A reasonable length of the end section of the slide should be specifically designed to reduce speed, and eject the rider parallel to the surface of the water.
(b) Where possible the end of the slide should deliver the rider as near as is practicable to the surface of the landing pool.
(c) Where possible, methods involving hydrostatic braking such as aqua-catches should be used in preference to splash pools.
(d) The slide exit should have a bull nosed lip to reduce risk of injury from rider falling back onto slide.

5.9 Splash Pools

(a) Where splash pools are part of the main pool, some form of physical barrier should be placed so that swimmers do not interfere with or impede the path of a water slide rider (This barrier should not, in its own right, present a hazard).
(b) The splash pool should be sufficiently deep to avoid a rider from striking the bottom. Slide exits up to 150mm above the surface of the water would require at least 1m in depth. Slides with higher exits, or faster exit speeds may require deeper water.

(c) There should be a 200mm slide overhang from the edge of the pool at the landing end.

(d) The slide should be positioned such that it is at least 2m clear of any obstructions each side (including walls). For multiple slides, there should be at least 2m between each landing area, and all slides should enter the splash pool in parallel and from the same direction.

(e) The splash pool should be clear of any obstructions for at least 6m in the direction of travel.

(f) The pool bottom should be a slip resistive non-abrasive surface, and should not contain any pool grates or drains within the landing area.

(g) Exit points should be clearly labelled, so that riders can quickly orientate themselves and leave the landing area.

5.10 Visibility

(a) The entire slide and equipment should be designed such that minimum lifeguard numbers are required to supervise the area.

(b) Suitable signage which details instructions for use and warnings should be displayed prominently.

5.11 Communication

Consideration should be given at the design stage to the intended methods of communication between staff supervising the Water Slide eg: line of sight to another lifeguard, telephones, remote controls, public address systems, intercoms. Excessive noise at entry and exit points may need to be considered.

5. References

- AS 3533.1 - 1997; Amusement rides and devices Part 1: Design and construction.

1. TITLE **DESIGN OF SPA POOLS**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish safety guidelines for the design of spa pools.

4. 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.

5. DESCRIPTION

5.1 The design of spa pool tanks should be consistent with guideline FD1 - Design of Pool Tank. Additionally, spa inlets, outlets and piping should comply with AS2610.01.

5.2 (a) Spa pools should be located where supervision can be undertaken.
(b) Spa pools should be considered in conjunction with the same level of supervision as swimming pools.

5.3 (a) Indoor spa pools should be provided with adequate ventilation, taking into account high evaporation and condensation rates, in accordance with AS 1668.2.
(b) Ceilings, walls and pedestrian traffic flow surfaces should be of a moisture impervious finish.

5.4 (a) The maximum recommended water depth is 1.1m.
(b) The maximum recommended seat depth is 600mm from the waterline.
(c) Consideration should be given to the displacement of water by users of the spa.

5.5 (a) Design of steps and ladders should be in accordance with AS 2610.1.
(b) Steps and ladders should also comply with FD5.
(c) The location of underwater obstacles such as steps and ladders may not be visible in the turbulent water and so should be clearly indicated through the use of handrails and signage.

5.6 (a) An adjustable thermostat may be used to control the temperature of the water within a range not exceeding 40 degrees Celsius.
(b) Additionally a safety system should be provided, which has a manual reset, and prevents users from being exposed to temperatures in excess of 45 degrees Celsius.

5.7 (a) 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.
(b) The device should rapidly alert staff to its activation by way of audible and visual signals, and should be clearly labelled to indicate its purpose.
(c) This device should only be able to be reset by staff.

5.8 (a) At all times, water filtration plant should be capable of turning over the volume of the spa pool at least once every 30 minutes.
(b) Water quality should be maintained within local statutory requirements.

5.9 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.

5.10 Signage relating to guest usage should comply with AS2610.1, and be consistent with supervision guidelines.

5.11 Drainage

(a) The spa pool should be fitted with drain(s) to allow the tank to be completely emptied.
(b) The drains and filter returns should be fitted with lint traps.

5.12 Automatic Shutdown - Entrapment Prevention.

(a) The filtration plant and equipment should have fitted a pressure-monitoring device that activates an automatic shutdown of all pumps. The limit of the pressure-monitoring device should be set to avoid injury from entrapment of foreign objects (such as people's hair and clothing and parts of their body such as limbs, etc.) in suction points. Each spa pump should be connected to a minimum of two suction points from the spa pool by means of a common line. The suction points shall not be closer than 600mm.
(b) There should also be no residual suction on automatic shutdown.
(c) 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

- AS 2610.1: Spa Pools - Public Spas.
- AS 2610.2: Spa Pools - Private Spas.
- Pool Operators Handbook - 2000; Department of Human Services, Victoria.
- Managing Health & Safety in Swimming Pools - 1999; Health & Safety Commission, England.
- Aquatic Facility Management - 2005; Paul Faucet of Human Kinetics, U.S.A.

1. TITLE **DESIGN OF FIRST AID ROOM**

2. DATE ISSUED 1st November 2007 ISSUE: 2

3. PURPOSE To establish a standard of design for first aid rooms at swimming pools.

4. DESCRIPTION

Note: The provision of first aid rooms depends on the size of the facility, and the number and distribution of people typically occupying the facility. Smaller facilities may use a room not dedicated to the provision of first aid. Larger facilities may require more than one first aid room, depending on the number and distribution of people using the facility. Facility Operators should also consider any relevant State Workplace Safety codes of practice or guidelines in relation to design, size, layout and content of first aid rooms.

4.1 Room Description

4.1.1 The size of the room provided should be of appropriate size and configuration for the usage of the facility.

(a) A small facility, which accommodates up to 500 people, should provide a room with a medical examination couch and sufficient room for a first aider to apply treatment to a casualty sitting or lying on the medical examination couch.

(b) Medium sized facilities which accommodate up to 1000 people should provide a dedicated first aid room of at least 15 square meters which allows access by first aiders carrying a stretcher.

(c) Large facilities accommodating up to 2000 people should provide a dedicated first aid room of at least 35 square metres with two medical examination couches and appropriate access for each.

4.1.2 (a) Where more than one medical examination couch is provided, sufficient space should be provided so that treatment of a casualty on one medical examination couch does not interfere with the treatment of a casualty on any other medical examination couch.

(b) Medical examination couches should be separated by a curtain, which will offer greater privacy.

4.1.3 The room should be well illuminated and ventilated.

4.1.4 First aid room temperature should be suitable in assisting with maintaining normal body temperature.

4.1.5 The room should have a wash basin with hot and cold water.

4.1.6 The room should have a telephone with a list of emergency numbers posted close by.

4.1.7 The room should have a minimum of one electrical general-purpose outlet (GPO).

4.1.8 The room should have lockable storage for special medication, items used for external wound treatment.

4.1.9 The room should have a workbench for the preparation, or the cleaning and sterilisation, of items used in first aid treatment

4.1.10 The room should have flooring which is washable and slip resistive. A drain may be provided to ease the cleaning of spills of materials or body fluids.

4.2 Access

4.2.1 The room should allow access by casualties requiring assistance including carers to enter and leave the room. This includes cases where casualties are carried into the room on a stretcher or in a wheelchair.

4.2.2 There should be double door access on the outside wall of the building, to an ambulance/car bay.

4.2.3 (a) The room should be located close to a toilet, which allows use by a casualty suffering a temporary disability or with a major disability.
(b) This should be a disabled or family change area, which allows unisex access.

4.3 Multi - Purpose Rooms (Existing Facility)

Note: If the room used for first aid is a multi-purpose area, it should:

4.3.1 allow sufficient space for the provision of first aid regardless of any other function the room might serve;

4.3.2 offer adequate privacy when required by the use of a screen or similar;

4.3.3 allow access to both sides of a casualty for emergency services to load onto a stretcher.

4.4 Large Facilities

If the swimming pool is a part of a major building or a multi building complex the First Aid Room should be:
(a) located a minimum of 80m from all aquatic areas and as close as practicable to other activities of risk in the complex;
(b) readily accessible (ie. not kept locked while the facility is open).

4.5 Room Signage

The first aid room entrance should be easily identified by:

(a) a white cross on a green background;

(b) and the words First Aid.

5 References

- Guideline FA4, Content of First Aid Rooms
- Guideline FD18, Design for Special Needs Populations
- Sports Council Technical Unit for Sport (1991) Designing for Safety in Sports Halls - Part 8: First Aid Provision. [Datasheet 60.8] London: Sports Council.
- Victorian WorkCover Authority, (1995) Code of Practice: First Aid in the Workplace. Melbourne, Australia.
- AS 2675 - 1983; Portable First Aid Kits for use by Comsumers, Standards Australia.

1. TITLE **DESIGN OF STARTING BLOCKS (STARTING PLATFORMS)**

2. DATE ISSUED 1st November 2007 ISSUE: 3

3. PURPOSE To establish safety guidelines for the design and placement of starting blocks (starting platforms).

4. DEFINITION

Starting Blocks, also referred to as starting platforms or diving blocks (not preferred) are raised platforms at the edge of a swimming pool, located in line with the mid point of each swimming lane, for the purpose of competitive swimming water entry and for housing the backstroke start handgrips.

5. DESCRIPTION

5.1 Starting Blocks (Starting Platforms)

5.1.1 Starting blocks should not be located where water is less than 1.2m deep and in pools with depths between 1.2m and 2.0m should be removed or isolated for recreational swimming.

5.1.2 Where removable starting blocks are used the recess mountings should not be hollow and should be flush with the concourse.

5.1.3 Where provided, starting blocks should be stable when mounted or when gripped from within the water.

5.1.4 Where starting blocks are provided, there should be a minimum water depth of 1.2m for a distance of 5.0m from the pool wall.
Note: Refer Guideline SU24, section 5.3 and FINA Handbook.

5.2 Starting Block Design

5.2.1 Starting block steps and tops should have slip resistive surfaces conforming to the recommendations in Australian Standards Handbook HB 197 - 1999; An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials.

5.2.2 The top surface of starting blocks should:
(a) be no greater than 750mm above the water surface; (front edge of starting block)
(b) be at least 500mm x 500mm in area;
(c) not be sloped more than 10 degrees toward the water.

5.2.3 Handgrips should not protrude beyond the pool wall.

5.2.4 Recessed pool concourse mountings (sleeves) for removable (portable) starting blocks should:

(a) not be hollow;

(b) be flush with the pool concourse;

(c) not have sharp edges.

5.2.5 Starting blocks should be stable when:

(a) in situ;

(b) mounted by a person preparing to enter the water;

(c) gripped from the water.

Note: For further information on design of starting blocks refer to FINA rules and regulations.

5.3 Use of Starting Blocks

5.3.1 Starting blocks are only required by persons starting in a swimming based competition or training for a swimming based competition that may include the following;

(a) Swimming and related (triathlon, distance swimming) squad training

(b) Swimming instruction

(c) Swimming competitions/meets for swimming clubs, schools and other groups

(d) Lifesaving classes.

5.3.2 In pools where starting blocks are required they should be provided:

(a) Following the development of the criteria for the intended use of the pool.

(b) In accordance with FINA Regulations, and

(c) In consideration of the requirements of Guideline SU 24 Safe Water Entry for Competitions (Competitive Dive Starts).

5.4 Maintenance of Starting Blocks

5.4.1 Starting blocks should be inspected regularly to ensure they are safe and fit for use.

5.4.2 Starting blocks deemed in an unsafe condition should be isolated and logged for repair.

5.5 Isolation of Starting Blocks Preventing Use

5.5.1 Isolation of starting blocks should not introduce any further risk to facility users.

5.5.2 Isolation may be in a variety of forms e.g. physical barriers or warning signage and supervision.

6. References

- Guideline FD 6 Swimming Lane Design
- Guideline GO4 Hire of Facilities

- Guideline SU 24 Safe Water Entry For Competitions (Competitive Dive Starts)
- Guideline PR 9 Teaching of Water Entry and Diving
- FINA Handbook - 2005-2009; Federation International de Natation.
- Diving in Swimming Pools and Open Water Areas- 1998; Institute of Sport and Recreation Management, England.
- Building Code of Australia - 2006. Australian Building Code Board.

1. TITLE **DESIGN OF POOL PLANT ROOMS AND CHEMICAL STORAGE AREAS**

2. DATE ISSUED 1st November 2007 ISSUE: 1

3. PURPOSE To establish safety guidelines for the design and layout of Pool Plant Rooms and areas used for the storage and handling of dangerous goods and hazardous substances.

4. DESCRIPTION

4.1 Plant Rooms

The following issues should be considered during the design process of a facility's Pool Plant Room, and when any refurbishments / modifications are made which require changes to the Plant Room layout or equipment:

(a) Manual handling and movement of heavy and large equipment.

(b) Maintenance and removal / replacement of equipment when required.

(c) Location for storage of dangerous goods and substances. Refer Australian Dangerous Goods Code and relevant State Occupational Health & Safety Acts.

(d) Confined spaces should be avoided wherever possible.

(e) It is recommended that the storage of general pool equipment (such as vacuums, lane rope reels, etc) does not prevent or inhibit access to chemicals, chemical storage areas and/or maintenance of equipment.

(f) Ventilation to and from Plant Rooms and Chemical Storage areas should at all times be separated from Pool Areas.

Refer Technical Operations sections TO1 - TO11 for further details.

4.2 Chemical Storage Areas

The following issues should be considered during the design process when deciding on the size, location and layout of the facility's chemical storage area:

(a) Access and Egress during Emergencies

(b) Delivery and handling of chemicals

Refer Technical Operations sections TO1 - TO11 for further details.

5. References

- Australian Dangerous Goods Code, Federal Office of Road Safety, Canberra, Australia.
- Victorian Occupational Health & Safety Act 1985 - Code of Practice for Hazardous Substances
- Hazardous Substances in the Workplace - 2001; Victorian WorkCover Authority, Melbourne Australia.

1. TITLE: BATHER SUPERVISION

2. DATE ISSUED: 14 November 2005 ISSUE: 4

3. PURPOSE: To provide guidance on the minimum ratio of qualified people per number of users at aquatic facilities during operating times and in particular recreational swimming times.

4. DEFINITION:

This Guideline refers to all bodies of water into which pool users may enter. This includes (but is not limited to) pools used for lap swimming of whatever size, leisure pools, toddlers pools, learn to swim pools, hydrotherapy pools, spa pools, dive pools (when dive tower / boards are closed), wave pools (when waves not in action) and running rivers (when not in motion).

Other Guidelines relating to the Supervision of specific water areas are:

SU16 Supervision of Wave Pools
SU17 Supervision of Rivers
SU18 Supervision of Water Slides (Flumes)
SU19 Supervision of Pools With Moveable Floors
SU 20 Supervision of Pools with Moveable Booms (Bulk Heads)
SU23 Supervision of Diving Towers and Springboards – Recreational Use
SU24 Supervision of Diving Towers and Springboards – Competitive Use

5. DESCRIPTION:

5.1 Minimum on Duty

(a) A minimum of two people should be on duty at any one time.
(b) At least one person should be a qualified lifeguard to the RLSSA Pool Lifeguard standard or equivalent and be capable of supervising the water.
(c) The second person, qualified to a minimum of a current RLSSA Bronze Medallion, should be on site and easily contactable in an emergency.
(d) At least one of these people should be qualified with a Level 2 (Senior) First Aid qualification and be available for the provision of first aid services.
(e) While 16 years is the minimum age for a person to be a qualified lifeguard, management should be mindful of the skills and maturity required for a person to be in charge of an aquatic facility. It is recommended that a person of a minimum of 18 years be in-charge of an aquatic facility. Refer also to Guideline LP1 Low Patronage.

5.2 Minimum Supervision

(a) A minimum of one qualified lifeguard should be supervising, facing and watching the

people in the water at all times.

(b) Sufficient lifeguards should be provided to ensure that all the body/s of water and people therein can be supervised effectively.

(c) Lifeguards are responsible for the supervision of all patrons within the aquatic areas of the facility, including those children under parental supervision. Refer to Guideline SU3 Supervision of Children.

5.3 Line of Sight

(a) Lifeguards should be positioned to maintain continual supervision of the water. It is recognised that lifeguards need to be mobile and a clear line of sight is a significant requirement. A clear line of sight must be established not only for the surface of the pool but also the floor of the pool.

(b) Lifeguard stations or lifeguard chairs, where provided, must take into consideration facility design issues that may obstruct a clear line of sight such as, but not limited to:

- size, number, and layout of pools
- surface reflection on the water
- walls/barriers
- water features
- planter boxes
- diving towers/springboards/water slides
- interactive play equipment
- spectator viewing galleries/seating areas

5.4 Ratios

(a) The recommended minimum ratio of lifeguards to people in the water is 1 lifeguard for up to 100 people.

(b) A risk assessment should be completed by facility operators prior to establishing lifeguard ratios. Refer Guideline GO7 Risk Management In Aquatic and Leisure Centres for details.

(c) Facility operators should consider a range of factors such as, but not restricted to:

- weather
- holidays
- size, number, and layout of pools
- surface reflection
- average attendance
- anticipated attendance
- swimming capabilities
- special needs individuals and groups
- the number and distribution of users
- recreational activities, either programmed or spontaneous

(d) Facility operators should be cognisant of the total number of patrons within the facility

at any one time and who may decide to enter the pool(s) virtually unannounced. This could result in a dramatic increase in the number of patrons in the water, an increase in risk and a need for increased supervision.

5.5 Ratios For Other Facilities

(a) **Multiple/Irregular Shaped Pools**

Sufficient lifeguards should be provided to effectively supervise the surface areas of all pools within the facility. All areas of the pool including the pool floor must be scanned and scrutinised on a regular basis.

(b) **Wave Pools** (refer also Guideline SU14)

The recommended minimum ratio of lifeguards to people in the water during wave motion is 1 lifeguard for up to 40 people.

6. REFERENCES / FURTHER INFORMATION

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Guidelines for safe recreational water environments. Volume 1, Coastal and fresh waters, 2003, World Health Organisation, Geneva.
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

7. PREVIOUS VERSIONS

- Guideline SU1 Bather Supervision, Issue 3, July 1996
- Guideline RS3 Bather Lifeguard Ratios, Issue 2, January 1994
- Guideline RS3 Bather Lifeguard Ratios, Issue 1, August 1991

1. TITLE: ENCOURAGING RESPONSIBLE BEHAVIOUR

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance on the ways in which aquatic facility management and staff should encourage responsible behaviour.

4. DESCRIPTION:

4.1 Wherever possible, the management and staff of an aquatic facility should take a positive approach to the encouragement of responsible behaviour. It should be remembered that the staff are available to help users enjoy the facility, not prevent enjoyable and safe activity.

4.2 Communication on modifying behaviour should be made with users, not to them.

4.3 Signage on appropriate behaviour should be in simple, positive, easily understood language and using symbols consistent with applicable Australian Standards (such as AS2899 Public Information Symbol Signs) whenever possible.

4.4 The example and encouragement given by staff is as important as the provision of appropriate signage in encouraging responsible behaviour.

5. REFERENCES

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto

6. PREVIOUS VERSIONS

- Guideline SU9 Encouraging Responsible Behaviour, Issue 2, July 1996
- Guideline RS16 Encouraging Responsible Behaviour, Issue 1, August 1991

1. TITLE: SUPERVISION OF CHILDREN

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance on the entry of children to an aquatic facility and the expected parental behaviour.

4. DESCRIPTION:

4.1 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, diligent.)

4.2 Parents or guardians (including those persons described in Section 4.1 above) should actively supervise their charges at all times and as such should be dressed ready to take action, including unexpected entry to a pool.

4.3 Parental/guardian supervision of children is in addition to, and in no way replaces, lifeguard supervision. Refer to Guideline SU1 Bather Supervision.

4.4 Signage

Signage or literature indicating the parental supervision policy of the facility should be displayed at the following points:

- entry to the facility
- entry or exit of change areas
- suitable locations e.g. toddlers pool, play areas
- brochures, websites, promotional material

5. REFERENCES

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

6. PREVIOUS VERSIONS

- Guideline SU10 Parental Supervision, Issue 1, July 1996

1. TITLE: DESCRIPTION OF LIFEGUARD DUTIES

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance on lifeguard duties.

4. DESCRIPTION:

4.1 Nature of Lifeguarding

(a) The aim of all lifeguards should be to provide adequate supervision of aquatic facilities to ensure the safety of all facility users.

(b) Concentrated observation of the pools and pool users must be maintained in order to anticipate problems, e.g. rowdy behaviour, or someone swimming into the path of a diver, and to identify and respond quickly to any emergency.

4.2 Rule Implementation

(a) During the supervision of pools and immediate surrounds the lifeguard must ensure that the facility's rules are being obeyed.

(b) Rules, such as, but not limited to the following, should be established to ensure:

- there is no running
- there is no pushing
- there is no diving into shallow water
- users are protected from unruly behaviour and dangerous actions
- users abide by local laws pertaining to the facility, and any other regulations imposed by the management
- users are enjoying their desired activity in a pleasant, healthy and safe environment.

4.3 Lifeguards should carry out intervention and preventative actions, rescues, and initiate other emergency action as and when necessary.

4.4 Lifeguards may be required to give first aid to any person on the premises in the event of an injury or illness.

4.5 Lifeguards should facilitate the safe use of pool space for various user groups and ensure allocated areas are clearly identified with appropriate signs.

4.6 The duties of lifeguards are those specifically identified as necessary for the prevention of injury and the saving of life. Such duties will normally be undertaken by lifeguards who may also be required to fulfil other tasks such as customer service, cleaning and

maintenance activities. However, while rostered for direct pool supervision the lifeguard should focus entirely on the safety of people in or around the water.

5. REFERENCES

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

6. PREVIOUS VERSIONS

- Guideline SU7 Description of Lifeguard Duties, Issue 2, July 1996
- Guideline RS17 Description of Lifeguard Duties, Issue 1, August 1991

1. TITLE: ACCREDITATION FOR POOL LIFEGUARDS

2. DATE ISSUED: 1 April 2006 ISSUE: 4

3. PURPOSE: To provide guidance on a minimum standard of accreditation for those involved in the supervision of recreational and formal swimming programs at aquatic facilities whether this be in a paid or voluntary capacity.

4. DESCRIPTION:

4.1 Recruitment Qualifications

(a) The minimum standard for initial employment should be the current Royal Life Saving Society Australia (RLSSA) Bronze Medallion or Surf Life Saving Australia (SLSA) Bronze Medallion. Where only the latter award is held, employees should undergo assessment of their abilities in still water techniques as listed in the RLSSA Bronze Medallion award criteria.

(b) Where a RLSSA Pool Lifeguard Award or equivalent is not held, the employee should be required to qualify to RLSSA Pool Lifeguard Award standard or equivalent within 4 weeks of employment.

(c) As neither organisation's Bronze Medallion is specifically a pool lifeguarding qualification, the person with this qualification only should not be left in sole charge of pool/s at a facility and should not be regarded as fully qualified.

Note: Consideration of course availability may be necessary.

4.2 Qualifications

(a) The appropriate minimum qualification for a pool lifeguard/pool attendant is the RLSSA Pool Lifeguard Award including units of competency SRCAQU003B, SRCAQU006B, SRCAQU007B and PUXEME01A or equivalent, as delivered by a Registered Training Organisation (RTO).

(b) The RLSSA Pool Lifeguard Award is current for a period of twelve months and should be re-assessed by an external RLSSA Pool Lifeguard Assessor or equivalent on an annual basis.

(c) Other qualifications as required by State/Territory regulations.

(d) These requirements should be included in the position description of lifeguards.

4.3 Facility Specific Training

As every aquatic facility has its own design, format and emergency procedures, lifeguards should be instructed on elements which are specific to the facility in which the lifeguard is to work. Refer to Guideline SU 7 Lifeguard Induction and In-service training.

4.4 Check on Accreditation

It is the employer's responsibility to check:

- the status of an individual's qualifications
- the currency of the qualification
- the ability of the person to perform any of the activities forming part of the qualification

5. ACCREDITATION REQUIREMENTS

5.1 Theory

Demonstrate theoretical understanding of:

- lifeguard and the law
- accident prevention
- rescue response
- rescue skills
- rescue procedures
- administration and management
- public relations and education
- basic water chemistry
- venue considerations
- CPR techniques, including modifications for children and infants
- emergency care of people suffering from shock, choking or bleeding
- the use of bystanders and how to contact emergency services

5.2 Resuscitation

(a) Demonstrate the following components:

- checking for dangers and taking appropriate action (DRABC)
- the assessment for unconsciousness
- clearing and opening the airway, including the use of suction
- checking for the signs indicating the presence or absence of breathing
- positioning of the casualty for EAR
- performing simulated EAR
- checking the carotid pulse
- locating the compression point for CPR
- demonstrating the appropriate action for a casualty who vomits or regurgitates.
- placing the Casualty in the lateral position

(b) **Expired Air Resuscitation (EAR)**

Demonstrate on both an adult and child resuscitation mannequin:

- mouth-to-mouth resuscitation
- mouth-to-nose resuscitation
- mouth-to-mask resuscitation
- operation of O_2 resuscitation equipment
- application of O_2 therapy
- application of O_2 supplemented resuscitation

(c) **Cardio Pulmonary Resuscitation (CPR)**

Demonstrate on both an adult and child resuscitation mannequin:

- one operator CPR
- two operator CPR, performing the External Cardiac Compression component

5.3 Rescue Techniques

Demonstrate the following techniques:

- Reach rescue
- Rope throw rescue
- Flotation aid rescue
- Accompanied rescue
- Wade rescue
- Non-contact tow
- Contact tow
- Water search procedures
- Blocking
- Blocking with an aid
- Reverses
- Escape techniques (from front and rear)

5.4 Rescue and Resuscitate

Starting in normal lifeguard attire, enter the water and recover a submerged person (or manikin) from the deepest part of the pool at a distance furthest from the edge. Return the person to the side of the pool, land them with assistance. Undertake DRABC and conduct 1 minute of EAR followed by two minutes of two operator CPR, with the candidate undertaking the EAR. The time from the start until the first breath of EAR should not exceed 3 minutes.

5.5 Spinal Management

(a) Apply the ‘vice grip’ in water for the immobilisation of the neck.

(b) Apply the ‘extended arm roll-over’ in shallow water for the immobilisation of the neck.

(c) Apply appropriately fitting cervical extrication collar to assist in maintaining the cervical spine in a safe, neutral position.

(d) Position a casualty on a spine board, secure them to the board and remove them from the water.

5.6 Pool Surveillance

(a) Using a mock scenario (initiative) effect a timely and successful intervention in an emergency demonstrating appropriate;

- recognition of an emergency
- emergency response procedure
- rescue techniques
- communication

5.7 On-the-job Assessment

(a) Demonstrate the application of the organisation's OHS procedures.

(b) Apply the organisation's rescue procedures.

(c) Supervise clients at an aquatic facility or environment

(d) To be completed during a minimum of three Pool Lifeguard shifts

5.8 Assessment of Competency

(a) Trainers and assessors must have current relevant industry knowledge and be either;

- employed by a Registered Training Organisation
- acting under the registration of a Registered Training Organisation

6. REFERENCES / FURTHER INFORMATION

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Guidelines for safe recreational water environments. Volume 1, Coastal and fresh waters, 2003, World Health Organisation, Geneva.
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- National Training Authority Community Recreation Training Package
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto

7. PREVIOUS VERSIONS

- Guideline SU2 Accreditation for Pool Lifeguards, Issue 3, July 1996
- Guideline RS1 Accreditation for Pool Lifeguards, Issue 2, January 1994
- Guideline RS1 Accreditation for Pool Lifeguards, Issue 1, August 1991

1. TITLE: LIFEGUARD HEALTH & FITNESS

2. DATE ISSUED: 14 November 2005 ISSUE: 1

3. PURPOSE: To provide guidance on the minimum level of health and fitness required of a pool lifeguard**.**

4. DESCRIPTION:

4.1 Aquatic facilities and lifeguards owe a Duty of Care to the patrons of that facility. Part of this Duty of Care extends to provision of adequate supervision and rescue capabilities. The health and fitness of a lifeguard has a direct bearing on his/her ability to perform supervision and rescue tasks and this Guideline defines the minimum level of health and fitness required. It is the responsibility of the lifeguard to manage their health & fitness and to inform facility management should their ability to perform their duties become compromised.

4.2 Fitness

Lifeguards need to have and maintain a minimum level of health and fitness that enables them to carry out their duties as described in:

- the RLSSA Pool Lifeguard Award (or similar)
- the RLSSA First Aid Award (or similar)
- their job description
- their facility induction process

5. VISION

Lifeguards rely greatly on vision when supervising. As a result it is vital that lifeguards have normal 20/20 vision.

5.1 If a lifeguard has, or becomes aware that he/she does not have 20/20 vision, then the lifeguard must take measures to facilitate his/her vision, such as the wearing of the appropriate corrective lenses.

6. HEARING

Hearing plays a vital role in lifeguarding, particularly in communication.

6.1 Lifeguards who have impaired hearing should take measures to facilitate their hearing such as the appropriate hearing aid.

6.2 Lifeguards who are deaf should ensure, in consultation with their management, that the appropriate procedures are in place to ensure adequate supervision of pool users and communication with staff, particularly in an emergency situation.

7. EPILEPSY

7.1 Definition

Epilepsy is a common condition affecting about 1 in every 200 of the population. It is characterized by recurring muscular seizures with a loss of consciousness. A seizure occurring in, or even near the water, may result in drowning unless rescue is affected very promptly. Epilepsy does not preclude a person from being a lifeguard, however there must be guidelines to ensure safety.

7.2 Persons suffering from epilepsy are eligible to participate in lifeguard activity provided they have the approval of their medical attendant who is fully aware of the nature and duties of pool lifeguarding.

7.3 The responsibility for a person's management of their epilepsy at all times rests with that person and the medical attendant concerned.

8. DIABETES

8.1 Definition

Diabetes Mellitus is a common disorder of body metabolism that can occur at any age. It is controlled by a combination of diet, exercise and perhaps medication.

8.2 In general, Diabetes does not preclude a person from any of the activities of a pool lifeguard.

8.3 Diabetics, who require insulin treatment, can only participate in lifeguarding activity if they have the approval of their medical attendant who is fully aware of the nature of pool lifeguarding.

8.4 The responsibility for a person's management of their diabetes at all times rests with that person and the medical attendant concerned.

9. ASTHMA

9.1 Bronchial asthma is a common condition within the community and may affect any age group. Asthma is a variable condition and it is recognised that a lifeguard with asthma may be fully fit at some times and not fit for duty at other times.

9.2 Persons with acute asthma are eligible to participate in pool lifeguard activity provided they have the approval of their medical attendant who is fully aware of the nature of pool lifeguarding.

9.3 The responsibility for a person's management of their asthma at all times rests with that person and the medical attendant concerned.

10. PREGNANCY

10.1 It is recognised that a pregnant lifeguard may be fully fit for duty at some times and not fit for duty at other times. On becoming aware of a pregnancy, pregnant lifeguards should consult with, and make their medical attendant fully aware of the nature of pool lifeguarding before continuing to work as a lifeguard.

10.2 It is recognised that pregnancy may preclude a lifeguard from fulfilling only a part of their duties for periods of time. In cases such as this, the lifeguard should consult with facility management about being able to alter the duties they are expected to carry out.

11. IMMUNIZATIONS

11.1 A lifeguard may come into contact with blood and other body fluids during the course of their duties. These body fluids may transmit infectious diseases such as Hepatitis and Influenza, amongst others.

11.2 It is recommended that lifeguards keep their immunizations up to date as recommended by their medical attendant to minimize the chance of becoming infected.

11.3 The responsibility for a person's management of their immunization levels at all times rests with that person and the medical attendant concerned.

This Guideline should be read in conjunction with SU9 Lifeguard Clothing and Equipment.

12. REFERENCES

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Guidelines for safe recreational water environments. Volume 1, Coastal and fresh waters, 2003, World Health Organisation, Geneva.
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

1. TITLE: LIFEGUARD INDUCTION AND IN - SERVICE TRAINING

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance on the minimum standard of induction and in-service training for lifeguards.

4. INDUCTION:

4.1 Frequency

(a) All lifeguards should receive a facility-specific induction before commencing work as a lifeguard.

(b) Employers should keep a record of the date and content of all staff inductions.

4.2 Content

(a) The content of induction sessions should be facility-specific and should include, but not be limited to:

- demonstrating/outlining the application of the organisation's OH&S procedures
- demonstrating/outlining the application of the organisation's Emergency Action Plan (EAP)
- supervising clients at an aquatic facility or environment
- familiarisation with the facility and its staff
- guarding positions
- facility-specific signals and rules

5. IN–SERVICE TRAINING:

5.1 Frequency

(a) Lifeguards working in a seasonal pool should participate in the in-service training just prior to the start of the season and one at least every three months there after until the close of the season.

(b) All other lifeguards should participate in a minimum of four organised training sessions per year to ensure maintenance of necessary skills and competencies.

5.2 Facility Specific Training

(a) Training sessions should be held at, or relate directly to, the aquatic facility in which the lifeguard is employed.

(b) An exception to this may be in relation to the theoretical or general practical activities e.g. oxygen equipment or resuscitation training.

5.3 Content

(a) The content of training sessions should be varied and cover all aspects of the role of lifeguarding. However, sessions may include but are not limited to:

- revision and practice of emergency procedures
- practice of initiative assessment of and response to simulated incidents
- revision of lifesaving skills
- resuscitation
- oxygen equipment
- first aid
- retrieving a person from the deepest part of the pool
- special needs populations
- public relations

(b) It is recommended that training sessions regularly include practical water work.

5.4 Training Log

(a) Management should ensure that a record of all training sessions is maintained at the place of employment. Note that records must be accessible onsite at the facility.

(b) Records should include the following details:

- date of training session
- person instructing / leading the session
- those attending
- content of the training session
- comments on employees unable to complete aspects of the training

(c) Lifeguards are recommended to maintain a personal log book recording all induction and in-service training undertaken. This may include additional professional development training provided by organisations other than their employer.

6. REFERENCES / FURTHER INFORMATION

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Guidelines for safe recreational water environments. Volume 1, Coastal and fresh waters, 2003, World Health Organisation, Geneva.
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- National Occupational Health & Safety Commission
- National Training Authority Community Recreation Training Package
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Relevant State / Territory Occupational Health & Safety Legislation

- Swimming Pool Supervision Guidelines and Recommended Standard, 1996,Hillary Commission, Wellington

7. PREVIOUS VERSIONS

- Guideline SU3 Lifeguard In-Service Training, Issue 2, July 1996
- Guideline RS2 Lifeguard In-Service Training, Issue 1, August 1991

1. TITLE: LIFEGUARD DUTY PERIODS

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance on the duration of duty periods for pool lifeguards to ensure maximum effectiveness of supervision.

4. DESCRIPTION:

4.1 Role of Management

(a) The length and nature of duty periods is very much dependent on the environment that the lifeguard is working in. It is incumbent on the facility operators to ensure that duty periods are organised in a way which provides adequate supervision of facility users.

(b) Management should be conscious of the safety implications of complacency, fatigue and lack of concentration that results from but is not limited to:

- shift length
- time / duration between shifts
- time of day
- workload
- weather
- noise

(c) Regular rotations, changes in duty or supervision area, along with regular breaks all assist in avoiding lapses in concentration.

4.2 Change in Activity / Supervision Points

(a) The maximum period for a person to undertake any particular activity will depend upon the environment in which the duty is taking place.

(b) Ideally a lifeguard should change their point of supervision or duty activity once every fifteen to thirty minutes.

4.3 Breaks

Lifeguards should be provided with regular breaks from duty throughout the day to ensure that attention span is retained.

5. REFERENCES

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Guidelines for safe recreational water environments. Volume 1, Coastal and fresh waters, 2003, World Health Organisation, Geneva.
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England

Publications, Wetherby.

- Meredith Wallace. *OHS Implications of Shiftwork and Irregular Hours of Work: Guidelines for managing shift work.* National OH&S Development Grant. Cited 28/1/2004 at http://www.nohsc.gov.au/researchcoordination/shiftwork/1.htm.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

6. PREVIOUS VERSIONS

- Guideline SU5 Lifeguard Duty Periods, Issue 2, July 1996
- Guideline RS6 Lifeguard Duty Periods, Issue 1, August 1991

1. TITLE: LIFEGUARD CLOTHING AND EQUIPMENT

2. DATE ISSUED: 14 November 2005 ISSUE: 4

3. PURPOSE: To provide guidance on the personal clothing and equipment for pool lifeguards.

4. DESCRIPTION:

4.1 Type

(a) Clothing provided for lifeguards should be functional and allow freedom of movement if entry into the water is required, e.g. polo shirt and shorts.

(b) The clothing should also be applicable to the environment at the facility.

4.2 Identification

Red and yellow are the internationally recognised lifeguard colours. Lifeguard uniforms should be distinctive in design to enable patrons and other facility staff to easily identify the lifeguard/s on duty.

4.3 Sun Protection

(a) All lifeguards working outdoors should be required to wear the following:

- long sleeved shirt with collar
- sunglasses (an exception may be while communicating with people), broad brimmed hat
- SPF 30+ broad spectrum sunscreen

Note: Where lifeguards rotate between indoors and outdoors long sleeved shirts may not be practicable.

(b) Facilities should provide shade where practicable at designated lifeguard positions.

Note: This is not only a personal safety measure but provides an important role model for facility users

4.4 Footwear

(a) Lifeguards should wear footwear that is suitable for the duties being performed.

(b) Thongs are not regarded as suitable footwear as they may not be safe when an urgent response is required.

(c) Relevant occupational health and safety regulations should be adhered to.

(d) Protective footwear signage should indicate areas that require footwear designed to protect from external hazards. This includes, but is not restricted to, areas such as the plant room.

4.5 Protective Equipment

All lifeguards should carry a minimum of a resuscitation pocket mask fitted with a oxygen inlet valve, as approved by Australian Standard AS 4259, a pair of disposable gloves to provide protection from cross-infection of diseases when performing resuscitation or elementary first aid, and a signalling device such as a whistle. A pen and paper should also be carried to allow the recording of information in any emergency response.

5. REFERENCES

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- AS 4259 Ancillary devices for expired air resuscitation
- First Aid in the workplace www.workcover.vic.gov.au
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Relevant State/Territory Occupational Health & Safety Regulations
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996,Hillary Commission, Wellington
- www.sunsmart.com.au

6. PREVIOUS VERSIONS

- Guideline SU4 Lifeguard Clothing and Equipment, Issue 3, July 1996
- Guideline RS5 Lifeguard Clothing and Equipment, Issue 2, January 1994
- Guideline RS5 Lifeguard Clothing and Equipment, Issue 1, August 1991

1. TITLE: EMERGENCY SIGNALS

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance on methods of gaining attention and communicating during an emergency.

4. DESCRIPTION:

4.1 The Signal

(a) It is important that all aquatic facilities establish pre-arranged emergency communication signals, e.g. siren, whistles etc.

(b) The nature of the signals should be included in the Emergency Action Plan (EAP) procedures section of the facility's operations manual. Refer to Guideline GO1 Operations Manuals and Guideline GO2 Emergency Action Plan.

(c) Emergency signals should only be used when an emergency occurs, except at training sessions.

(d) The signals should be tested and practised at regular in-services training sessions.

4.2 Type of Signal

(a) The type of signal used will depend upon the design and configuration of the facility, e.g. size and accessibility are major considerations.

(b) Examples of emergency signals include:

- siren
- whistles
- two way radio communication
- telephone links between sections of a complex
- public address system

(c) If an electronic system is used, a manual back up system for use during periods of power failure should be available, e.g. megaphone.

(d) Such equipment must be readily available, in good working order and accessible by all on duty staff.

4.3 Isolated Areas

Facilities with isolated areas, e.g. first aid rooms and plant rooms, should have direct emergency signal communication with the management officers, in order that emergency assistance can be provided quickly and efficiently.

5. REFERENCES

- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney

- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

6. PREVIOUS VERSIONS

- Guideline SU6 Emergency Signals, Issue 2, July 1996
- Guideline RS7 Emergency Signals, Issue 1, August 1991

1. TITLE: SUPERVISION OF ISOLATED AREAS

2. DATE ISSUED: 14 November 2005 ISSUE: 1

3. PURPOSE: To provide guidance on the supervision of isolated areas in an aquatic facility.

4. DEFINITION:

An isolated area is one in which a supervising staff member is not ordinarily present. Such areas in a facility may include, but are not restricted to saunas, steam rooms, changing rooms and toilets. Refer to Guideline SU1 Bather Supervision.

5. DESCRIPTION

5.1 Purpose of Supervision

5.1.1 Isolated areas should be checked and inspected regularly to:

(a) Ensure that the number of patrons which can be safely accommodated is not exceeded (in areas such saunas and steam rooms).

(b) Ensure the safety of patrons.

(c) Ensure that patrons are observing appropriate standards of behaviour.

5.1.2 Further considerations for 'wet' areas such as saunas, steam rooms, and changing rooms include:

- hygiene and cleanliness
- maintenance issues
- the likelihood of assault and theft

5.3 Frequency and Nature of Supervision

5.3.1 Areas such as change rooms and toilets should be checked and inspected at a minimum of 30 to 60 minutes at random intervals.

5.3.2 Staff undertaking the inspections are not required to be pool lifeguard qualified. However appropriately trained staff should be able to respond in case of an emergency.

5.3.3 For 'wet" areas, such as saunas and steam rooms, the frequency of checks should increase to a minimum of 15 to 30 minutes at random intervals.

5.3.4 Inspections should be recorded on a checklist that includes but is not limited to:

- date and time of inspection

- activities during inspection
- name of inspector

5.4 Hazards

Safety hazards identified during routine patrols or inspections should be isolated and sign-posted. Provision should be made for repair or maintenance to occur as soon as possible.

5.5 Emergency Action Plan

An Emergency Action Plan (EAP) procedures should be developed for isolated areas. Information from the EAP should be displayed in or adjacent to the isolated areas and should contain (but is not limited to):

- How to raise the alarm (for a facility user in the isolated area)
- The procedure to follow once an emergency has been declared.

Note: Guideline GO2 describes the scope and recommended content of emergency action plans.

6. REFERENCES / FURTHER INFORMATION

- Guideline SU5, Lifeguard Duty Periods
- Guideline SU9, Encouraging Responsible Behaviour
- Guideline GO2, Emergency Action Plan
- Guideline GO4, Hire of Facilities
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.

7. PREVIOUS VERSIONS

- Guideline SU8 Supervision of Changing/Toilet Areas, Issue 3, November 1997
- Guideline SU8 Supervision of Changing/Toilet Areas, Issue 2, 1 July 1996
- Guideline RS11 Supervision of Changing/Toilet Areas, Issue 1, August 1991

1. TITLE: SUPERVISION OF PEOPLE WITH DISABILITIES

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance on the safe supervision of people with disabilities using aquatic facilities. Refer to Guideline SU1 Bather Supervision.

4. DESCRIPTION:

4.1 Staff should be alerted to the presence of people with disabilities.

4.2 Training

(a) Staff should be trained to deal with the range of special needs populations who are regular users of the swimming pool.

(b) The training should include, but not limited to:

- safe manual handling techniques
- use of lifting equipment
- communicating with people with special needs
- removal of people with special needs during emergencies
- recognising specific behavioural movements of special needs patrons

4.3 Facility operators should have policies in relation to the physical assistance offered by staff to people with disabilities.

4.4 Carers accompanying people with disabilities need to be aware of their role and responsibilities as compared to those of the facility staff.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington.

6. PREVIOUS VERSIONS

- Guideline SU11Special Needs Populations – Supervision, Issue 1, July 1996

1. TITLE: INFLATABLE PLAY EQUIPMENT

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance in the use and supervision of in-pool inflatable play equipment. This Guideline should be read in conjunction with Guidelines SU1 Bather Supervision, GO7 Risk Management and SU21 Supervision of Diving (Recreational Swimming).

4. DEFINITION:

There are many variables associated with the use of in-pool inflatable play equipment. Each situation is unique given the design of the inflatable equipment, the pool it is being used in and how the equipment is being used. As a result, this Guideline has taken an overall risk management approach to the supervision and use of in-pool inflatable equipment.

5. DESCRIPTION:

5.1 All aquatic facilities that use in-pool inflatable equipment should conduct a detailed risk management assessment on the use of the inflatable equipment.

5.2 The risk management assessment should include, but not be limited to, the following points:

- Manufacturers instructions
- Depth(s) of water in which the inflatable is operated
- Likelihood of a person falling:
  - off the inflatable
  - onto the inflatable
  - into the water
  - onto the pool edges
- Design of the pool
- Design of the inflatable
- Physical size of the patrons
- Number of patrons using the inflatable or in its environs
- Physical ability of the patrons
- Operating procedures
- Supervision
  - of the inflatable
  - of the general area (including line of sight issues)
- Previous incidents in relation to the inflatable – either recorded or anecdotal

5.3 Where a facility operator assesses an unacceptable risk, the use of the relevant inflatable should cease immediately until an acceptable means of managing this activity is implemented.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- AS/NZS 4360 Risk management 2004
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Life Saving Victoria Position Statement 2004
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington
- The Use of Play Equipment & Water Features in Swimming Pools, 1994, ISRM, Melton Mowbray

6. PREVIOUS VERSIONS

- Guideline SU13 Inflatable Play Equipment, Issue 2, July 1996
- Guideline RS8 Inflatable Play Equipment, Issue 1, August 1991

1. TITLE: SUPERVISION OF INTERACTIVE WATER PLAY EQUIPMENT

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance on the supervision of patrons using interactive water play equipment.

4. DESCRIPTION:

4.1 Interactive water play equipment is essentially a children's playground with a water environment. As such, youthful enthusiasm may increase risk for users with a consequential need for increased supervision.

4.2 When open for use, the pool and the equipment should be constantly supervised. The number of lifeguards on duty should be sufficient to safely supervise the area.

4.3 Maintenance

(a) The equipment should be inspected daily prior to use to identify faults which present a potential hazard to anyone using this equipment. Any identified hazards should be isolated.

(b) Identified hazards should be isolated and reported for repair using normal operating procedures.

4.3 Structural recommendations stating the maximum number of people on the equipment at any one time should be adhered to.

4.4 Rules

(a) A schedule of rules governing the use of the equipment should be established and monitored.

(b) Rules may include, but are not limited to:

- maximum number of people
- age ranges permitted
- no running on the equipment
- parental supervision (refer to Guideline SU3 Supervision of Children)
- aquatic ability of people using equipment

4.5 Isolation of Equipment

(a) Isolation of any component or apparatus within the equipment may be necessary for a number of reasons including safety, maintenance and crowd control.

(b) Isolation should be effective, safe and appropriately signed.

4.6 Water pressure changes resulting in high pressure jets of water or water spraying onto the pool concourse or ceiling should be monitored and any necessary corrective action initiated.

4.7 Swinging apparatus should be supervised to limit the number of users.

4.8 Appropriate signage should advise people of equipment available, its use, and the possible dangers involved, in particular those with *ad hoc* operation and without prior warnings.

4.9 Emergencies

(a) An Emergency Action Plan relevant for the play equipment should be in place.

(b) An emergency stop button with audible and visual alarm should be located in close proximity to the equipment.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington
- The Use of Play Equipment & Water Features in Swimming Pools, 1994, ISRM, Melton Mowbray

6. PREVIOUS VERSIONS

- Guideline SU16 Supervision of Interactive Water Play Equipment, Issue 1, July 1996

1. TITLE: SUPERVISION OF FLOATING PLAY EQUIPMENT

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidelines for the supervision of floating mats, rafts, and small inflatable play equipment. This Guideline should be read in conjunction with SU13 Inflatable Play Equipment and Guideline GO7 Risk Management In Aquatic and Leisure Centres.

4. DESCRIPTION:

4.1 There are many variables associated with the use of floating play equipment. Each situation is unique given the design of the equipment, the pool it is being used in and how the equipment is being used. As a result, this Guideline has taken an overall risk management approach to the supervision and use of in-pool inflatable equipment.

4.2 Potential hazards with this type of equipment include:

- use in deep water where non-swimmers may fall from equipment
- falling from equipment onto pool wall or concourse
- entrapment underneath the equipment
- large equipment or too many items may restrict lifeguard visibility, particularly under water
- user injury from hard equipment falling or being pushed into or onto the user, or other patrons/pool users
- allowing jumping from poolside onto the floating items
- use in shallow water where people may fall from equipment
- those not familiar with the environment
- unused equipment left unattended on concourse
- a non-swimmer following a floating toy into deep water
- wearing a floatation aid and moving into deep water.
- young children choking on small toys placed in their mouths
- cleanliness (equipment not drying out between uses)

4.3 Floating Mats and Rafts

Non-inflatable mats and rafts constructed of high density and often hard buoyant material are increasingly used for casual water play. Consideration should be given to the maximum number of floating mats and rafts allowed in the pool(s) at any one time

4.4 Small Inflatable Play Equipment

(a) Facility operators should ensure, amongst other things, that small inflatable play

equipment is:

- in safe, working order
- suitable for the age of users
- large enough in diameter to prevent becoming a choking hazard

(b) Aquatic facilities should have a policy on whether they provide inflatable equipment or allow people to use their own.

(c) Patrons who use exhaled air to inflate equipment should be afforded extra supervision.

(d) Inflatable equipment, particularly inner tubes, should be inspected prior to use to ensure there is no risk presented by an exposed inlet valve.

(e) Patrons should not be permitted to jump or dive through inflatable rings.

(f) Extra precaution and supervision may be required in outdoor pools, in particular on windy days.

5. REFERENCES

- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- The Use of Play Equipment & Water Features in Swimming Pools, 1994, ISRM, Melton Mowbray

6. PREVIOUS VERSIONS

- Guideline SU17 Supervision of Floating Play Equipment, Issue 1, July 1996

1. TITLE: SUPERVISION OF WAVE POOLS

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance on the supervision of wave pools. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision.

4. DESCRIPTION:

4.1 Ratios

(a) Wave pools will require special supervision with lifeguard to bather ratios greater than for conventional pools. The recommended minimum ratio of lifeguards to people in the water during wave motion is 1 lifeguard for up to 40 people.

(b) Particular wave patterns may require additional supervision.

(c) Overcrowding in wave pools is common and lifeguard to bather ratios should be increased to ensure adequacy of supervision.

4.2 Lifeguard access to and from all sides of the wave pool should be provided.

4.3 Wave Start Up

(a) An audible and visual warning should be activated at least one minute prior to the commencement of any wave motion to warn people using the pool in calm conditions.

(b) A verbal announcement using a loud hailer or public address (PA) system should also be given prior to the commencement of waves allowing adequate time for those who wish to return to shallow water or to vacate the pool and for carers with small children to hold onto them during the operation of the wave machine.

(c) All other water features should be stopped during wave motion.

(d) Lifeguards should be alert as the alarm may encourage patrons to run to the wave pool.

4.4 Access to the pool when the waves are operating should only be allowed from the beach entry area.

4.5 Jumping or diving into or onto waves should not be allowed.

4.6 Controls for the operation of the wave pool including emergency stop button/s should be located on the pool deck allowing lifeguard operation while supervising the pool.

4.7 Hand Rails

(a) Handrails should be checked regularly for tightness as they may become loose due to greater loadings created by swimmers' movement in the waves.

(b) Users should not be allowed to hang onto climb outs which should be left free for swimmers wishing to exit the pool.

4.8 Swimmers should be kept away from the wave generation wall during wave motion.

4.9 Flotation devices provided by management and where permitted, privately owned devices should only be used under strict supervision by lifeguards.

4.10 The use of floating lines or ropes in the 'breaking zone' is not recommended.

4.11 The wearing of snorkelling equipment during wave motion is not recommended.

4.12 Wave motion periods are generally short, lasting from 5 to 10 minutes every hour.

4.13 Lifeguards should be alert and scanning for people in difficulty or at risk, including:

- the tired swimmer
- the swimmer out of their depth during wave motion
- the swimmer holding young children
- the injured swimmer
- the non-swimmer
- the distressed swimmer

4.13 A crowd control procedure should be in place to allow not only a quick and orderly evacuation of the wave pool, but also a safe and orderly re-entry upon re-opening.

4.14 All wave pools should include appropriate signage, including, but not limited to, changing water conditions, depth measurements and diving restrictions.

4.15 Lifeguards should have easy access to rescue equipment specific to a flowing water environment. This may include, but is not limited to, throw bags and reach poles.

5. REFERENCES / FURTHER INFORMATION

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

- The Use of Play Equipment & Water Features in Swimming Pools, 1994, ISRM, Melton Mowbray

6. PREVIOUS VERSIONS

- Guideline SU14 Supervising Wave Pools, Issue 1, July 1996

1. TITLE: SUPERVISION OF RIVERS

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance on the supervision of lazy and rapid rivers installed at aquatic facilities. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision

Note : This guideline does not relate to river rides as seen at many water parks.

4. DESCRIPTION:

Moving water provides an exciting environment for both children and adults. A lazy river is defined as water with flow rates less than 1.5 metres per second.

4.1 Turbulence

(a) Turbulent water provides greater potential risk to users than does still water and as such requires increased supervision levels.

(b) Turbulence can also create turbidity thereby reducing water clarity, which may reduce the lifeguards' ability to effectively supervise the area.

4.2 Water Velocity

(a) Flow rates of water less than 1.5 metres per second are recommended as adults can normally maintain a footing on slip-resistant flooring when standing in waist depth water at these velocities.

(b) Children may find water velocities above 1.0 metres per second unsafe under some conditions, even in shallow water.

4.3 Sightlines

(a) Due to the nature of river design, lifeguards will need to be mobile to maintain sightlines to users as they move in the river.

(b) Restricted sightlines may require a higher level of supervision.

4.4 User Movement

(a) Users should be requested to move through a river without stopping as a moving person impacting a stationary person may result in injury.

(b) Users stopping within a river may indicate a person is in difficulty and as such appropriate action may be necessary.

4.5 Lifeguards should have easy access to rescue equipment specific to a flowing water environment including, but not limited to, throw bags and reach poles.

5. REFERENCES / FURTHER INFORMATION

- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- The Use of Play Equipment & Water Features in Swimming Pools, 1994, ISRM, Melton Mowbray

6. PREVIOUS VERSIONS

- Guideline SU19 Supervision of Rivers, Issue 1, July 1996

1. TITLE: SUPERVISION OF WATER SLIDES (FLUMES)

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance on supervision for the safe use of water slides. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision

4. DESCRIPTION:

4.1 Water slides should be inspected daily, prior to their operation.

4.2 Routine visual inspection may include, but not be limited to:

- adequate water flow
- integrity of connections between all sections
- integrity of and fixing of slide mounting
- smooth surface for length of slide
- integrity of stairs and landings, including slip resistivity and non-abrasive surfaces

4.3 Mats should only be used on slide systems that have been specifically designed for this purpose.

4.4 Head first entry should NOT be permitted unless the slide system has been specifically designed for this purpose.

4.5 Users

(a) Water slide supervisors should be familiar with the design specifications including user size and user numbers for each water slide.

(b) Chain rides on slides should never be allowed.

(c) Parents riding/holding children and infants should only be allowed at the management's discretion.

4.6 Running starts should not be allowed.

4.7 An effective user spacing system should be established to ensure that person-to-person collisions, particularly in the landing area, are avoided.

4.8 Slides should be able to be isolated when not in use.

4.9 Communication

(a) An effective means of communication should be established between lifeguards

supervising the water slide and other water spaces.

(b) This may include, but is not limited to:

- whistles
- two-way radios
- telephones
- remote controls
- loud hailers
- hand signals

4.10 Advisory signage should be provided to inform all users of the water depth in the landing area.

4.11 Staffing

(a) Adequate levels of supervision should be provided ensuring the appropriate control of users entry and exit.

(b) A user should not be allowed to commence unless the supervisor is confident that there will be no risk of contact with a previous user.

(c) Supervisors stationed at the entry to a water slide and who are not required to enter a pool should have a minimum of a current Level 1 (basic) First Aid qualification, and be trained in water slide operating and emergency procedures.

(d) Only qualified lifeguards should be stationed at the exit of the water slide.

(e) Supervisors and Lifeguards responsible for specific areas of the water slide should not be required to supervise other areas/pools.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Coronial Decision
- AS3533.2 1997 Amusement rides and devices – operation and maintenance
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington
- The Use of Play Equipment & Water Features in Swimming Pools, 1994, ISRM, Melton Mowbray

6. PREVIOUS VERSIONS

- Guideline SU20 Supervision of Water Slides (Flumes), Issue 1, Nov 1997

1. TITLE: SUPERVISION OF POOLS WITH MOVEABLE FLOORS

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance for the supervision of swimming pools with moveable floors. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision.

4. DESCRIPTION:

4.1 Swimming pools with moveable floors may require an increased level of supervision due to their flexible use and the changing depths.

4.2 Depth Signage

(a) Depth signage must not be obscured and should be visible from all pool entry points.

(b) Depth signage must be accurate and as such should be regularly checked, and where necessary, calibrated.

4.3 Varying Depth

While the depth of the pool is in the process of change (moving of the floor):

(a) People should be away from the pool edge and the pool wall if allowed to remain on the floor.

(b) Constant and direct supervision of the pool and surrounding concourse must be maintained.

(c) Depth signage should change simultaneously with the pool depth.

(d) It is recommended that the pool be vacated while the floor is being placed in a sloping profile.

4.4 Floors at Water Surface

Pool floors which can move to the surface of the water need special precautions.

(a) The floor may not be flush with the surrounding concourse and create a small step or lip upon which patrons may trip or fall.

(b) A slip-resistance of at least B grade is recommended.

(c) People should not be allowed off or onto the floor until it is stationary.

(d) People should be aware of and not trip on the grab rails normally used for deep water exits. Removable grab rails may be more appropriate in this instance.

5. REFERENCES / FURTHER INFORMATION

- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.

6. PREVIOUS VERSIONS

- Guideline SU15 Supervision of Pools with Moveable Floors, Issue 1, July 1996.

1. TITLE: SUPERVISION OF POOLS WITH MOVEABLE BOOMS (BULK HEADS)

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance for the supervision of pools fitted with moveable boom(s) or bulk head(s). This Guideline should be read in conjunction with Guideline SU1 Bather Supervision.

4. DESCRIPTION:

4.1 Positioning

(a) Ideally the repositioning of a boom should be carried out when the pool is free of people.

(b) An electrically controlled moveable boom should only be moved when the pool is free of people.

(c) The boom should be correctly anchored in place when *in situ*.

4.2 For pools with either singular or multiple booms, each body of water should be able to be supervised giving consideration to potential blind spots.

4.3 Manually operated booms should include moving instructions consistent with current Occupational Health and Safety regulations.

5. REFERENCES / FURTHER INFORMATION

- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.

6. PREVIOUS VERSIONS

- Guideline SU18 Supervision of Pools with Moveable Booms (Bulk Heads), Issue 1, July 1996

1. TITLE: SUPERVISION OF DIVING (Recreational Swimming)

2. DATE ISSUED: 14 November 2005 ISSUE: 2

3. PURPOSE: To provide guidance for safer diving (water entry) and methods of supervision during recreational swimming. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision.

Note 1: Diving into water can be a dangerous activity and the following guidelines describe the minimum conditions required.
Note 2: For diving from diving towers and springboards, refer to Guideline SU23 & SU24.
Note 3: For the teaching of diving, refer to Guideline PR 9 (LTS9).

4. DEFINITION:

4.1 A dive entry is defined as a forward entry from a standing position with arms outstretched and hands held together.

4.2 Forward clearance is defined as the distance out 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.

5. DESCRIPTION:

5.1 Depths for Recreational Dives

(a) A dive entry should not be permitted into a water depth of less than 1800mm.
(b) A dive entry from a starting block should not be permitted into water depth less than 2000mm. (see also FD 24 Section 5.2).
(c) A dive entry from pool sides exceeding 380mm above water level should not be permitted into water depth less than 2000mm.
(d) 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.

5.2 Running dives should not be permitted into any depth of water.

5.3 Isolation (see also FD 24)

(a) Permanent starting blocks located at water less than 1800mm deep should be isolated to prevent their use during recreational swimming.

(b) Isolation should be designed to prevent climbing or misuse of the starting blocks.
(c) Isolation of starting blocks should not introduce any further risk to facility users.
(d) Isolation may be in variety of forms e.g. physical barriers or warning signage and supervision.

5.4 Signage

Note: Refer to Guidelines FD3, FD4 and FD24, and Australian Standard AS2416, Design and application of water safety signs.

(a) All signage relating to diving rules should meet the Australian Standard AS2416 for classification, layouts, size, legend, legibility, colours, and siting.
(b) All signage relating to diving rules should accurately convey those rules.
(c) All signage should be maintained in order to remain clear and easily identified.
(d) All markings should be of a strong contrast against the surrounding areas, as per AS2416.
(e) Wording and symbols on signage relating to diving rules should be consistent throughout the venue.
(f) The actions and interventions taken by pool supervising staff to enforce diving rules should be consistent with all signage.

5.5 Leisure Pools and Wave Pools

Note: Refer to Guidelines SU13, SU14, SU15, SU16 and SU17.

(a) Diving in or into wave pools should be prohibited at all times.
(b) All practicable measures should be taken to prevent diving from elevated positions arising from design features or equipment used in the pool.
(c) Jumping into wave pools when the waves are in action should be prohibited.

6. REFERENCES / FURTHER INFORMATION

- AS2416, Design and application of water safety signs
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.

7. PREVIOUS VERSIONS

- Guideline SU23 Supervision of Diving (Recreational Swimming), Issue 1, January 2001

1. TITLE: **SAFER WATER ENTRY FOR COMPETITIONS - COMPETITIVE DIVE STARTS**

2. **DATE ISSUED:** 14 November 2005 ISSUE: 1

3. **PURPOSE:** To provide guidance on safer water entry (Competitive Dive Starts) for competitors during competitions and training for competition.

4. **DEFINITION:**

4.1 Dive entry is defined as entry into water where the upper body (the hands, arms and head are followed by the torso and lower limbs) enters first during activities, which are conducted under aquatic programming such as:

- swimming and related (triathlon, distance swimming) squad training and competition
- lifesaving classes.

4.2 Competitive dive start is defined as entry into water from the side of the pool (flush or raised) or from a starting block for the purpose of starting a swimming based competition or training for a swimming based competition that may include the following:

- swimming and related (triathlon, distance swimming) squad training;
- swimming competition instruction;
- swimming competitions/meets for swimming clubs, schools and other groups;
- lifesaving classes.

4.3 **Starting blocks (starting platforms)** are defined as raised platforms at the edge of a swimming pool, located in line with the mid point of each swimming lane, for the purpose of competitive swimming water entry and may also be used for housing the backstroke start handgrips.

5. **DESCRIPTION:**

5.1 **Administration**

(a) All coaches/teachers and instructors or club officials should keep a record of competence of safe diving technique, and competitive starts.

(b) Prior to participating in swimming events swimmers should be advised and warned of the water depth into which they may be required to enter during the course of any competition.

Note : Competition entry forms and promotional material should clearly advise competitors of the water depth in which competition(s) will be held.

5.2 Instruction in Safer Water Entry (see also Guideline PR 9 in Program section)

(a) All persons who wish to participate in swimming or like (eg. Lifesaving) competitions should be instructed in the principles of safe water entry and diving techniques, and competitive dive starts in a progressive education program under the instruction of an appropriately qualified Coach or Instructor.

(b) All participants in swimming or like competition should receive appropriate instruction prior to participating in any swimming or like competitions.

5.3 Water Depths for Starts for Competition Swimming and Training (for trained competitors)

(a) In water depth less than 900mm dive starts should not be permitted. All events should be commenced in the water.

(b) In water depths 900mm to 1000mm:

- competitive dive starts may be permitted from concourse level to a maximum height above water of 200mm
- if concourse height is greater than 200mm above the surface of the water, starts should be commenced in the water.

(c) In water depths greater than 1000mm and less than 1200mm:

- competitive dive starts may be permitted from concourse level to a maximum height above water of 400mm
- if concourse height is greater than 400mm above the surface of the water, starts should be commenced in the water.

(d) In water depths 1200mm or greater, competitive dive starts may be permitted from a maximum height of 750mm.

5.4 In swimming pools where recreational and competition / training or learn to swim is being conducted side by side, a warning sign should be prominently displayed adjacent to those areas in which dive entries are being performed by trained (in safe dive entry) swimmers; which reads:

"Warning: Dive Entries Permitted by Trained Swimmers Under Coach's Supervision Only", or similar,

Note : A sign is not necessary where the pool is being used solely for competition swimming/training or learn to swim under supervision.

5.5 Use of Starting Blocks (Refer also FD 6 Swimming Lane Design)

(a) Starting blocks should be inspected prior to each use to ensure they are correctly fitted, sturdy and free of any potential hazards

(b) Starting blocks should only be available for use by those persons deemed as competent at executing a safe forward dive entry.

(c) Only a qualified swim coach, lifesaving instructor (excepting beach life saving), or

swim instructor (eg. AUSTSWIM) should assess competence.

(d) In pools where non-complementary activities are being conducted, starting blocks should be isolated from use when not used for competition or instruction.

6. REFERENCES / FURTHER INFORMATION:

- Guideline PR 9 Teaching of Water Entry and Diving
- Guideline FD 6 Swimming Lane Design
- Guideline FD24 Design of Starting Blocks (Starting Platforms)
- Guideline FD 3 Pool Depth Markings
- Dive depth and water depth in competitive swim starts, J Blitvich *et al*, 2000
- FINA Handbook 2002-2005. FINA, Lausanne.
- Safe Diving Practices: Competitive Applications (Keith McElroy), J Blitvich *et al*, 1999.

7. PREVIOUS VERSIONS

- Guideline SU21 Safe Water Entry for Competitions – Competitive Dive Starts, Issue 1, Nov 2002
- Guideline SU21 Supervision of Competitive Events Issue 1, November 1997

1. TITLE: **SUPERVISION OF DIVING TOWERS AND SPRINGBOARDS – Recreational Use**

2. DATE ISSUED: 14 November 2005 ISSUE: 3

3. PURPOSE: To provide guidance for the safe recreational use of diving towers and springboards. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision

4. DESCRIPTION:

4.1 Risk Assessment is central to establishing a policy on the use and supervision of diving towers and springboards. As part of a risk assessment concerning safer diving, consideration must include all hazards and risks associated with diving. Refer to the general risk management section for further advice on applying a risk management assessment.

4.2 Maintenance

(a) The diving tower(s), platform(s) and springboard(s) should be inspected and checked as suitable for use prior to being opened on each day of operation.

(b) Defective or faulty equipment should be isolated, signposted and reported for repair under normal operating procedures.

4.3 Height of Springboards and Platforms

(a) It is recommend that recreational users be restricted when diving to a maximum height of 3 metres on either springboards or platforms.

(b) It is recommended that recreational users be restricted when entering the water feet first (i.e. jumping or bombing) to a maximum height of 5 metres.

(c) Any recreational use at 5 metres or above should only be considered if appropriate risk assessments have been conducted and mechanical surface agitation is installed under the diving facilities; this aids the users in their visual perception and location of the surface of the water, and to break surface tension.

4.4 Supervision

(a) Diving towers and springboards should be supervised at all times they are open for use.

(b) The lifeguard supervising the dive pool when the diving tower or springboards are open should, in no circumstances, have the additional responsibility of supervising any other pool space at that time.

(c) The supervising lifeguard must be able to recover a person from the deepest section

of the pool. Additional equipment to assist deep water rescue should be provided in close proximity to the pool e.g. Swim fins.

(d) Access to the diving tower should be restricted except during periods when the tower is in use for diving.

(e) Queuing and congestion on narrow stairways should be avoided.

4.5 Entry

(a) Entry to the diving area from poolside should not be allowed when the diving boards are in use, thus minimising the risk of a collision.

(b) Entry off the tower or spring board should only be allowed when the previous user has exited the pool.

4.6 Signs which encourage safe use of diving towers and springboards should be displayed.

4.7 Notwithstanding 4.8, when a diving tower and springboard, or similar combination, share a dive pool, users of the tower should have the right of way, entering the pool feet first. This is an area of supervision where a lifeguard may need to take direct control of the diving activities of patrons, co-ordinating the order of dives.

4.8 Multiple Springboards/Platforms

(a) Recreational users should only use one board or platform in any one session.

(b) Springboards and towers located on opposite sides of a diving pool should not be used at the same time.

4.9 Particular care should be taken in open air pools on windy and busy days to avoid injury.

4.10 Water clarity in diving pools should be regularly monitored.

4.11 Users

(a) Only one person should be on any board or platform at any one time.

(b) A maximum of two (2) bounces per dive from a springboard should be allowed.

4.12 The diving pool must be free from any obstruction e.g. lane ropes, polo nets when in use for recreational diving activity.

4.13 Where diving boards are installed at the deep end of a multi-use pool, there must be at least 2.5 metres of clear space on each side of the board.

5. REFERENCES / FURTHER INFORMATION

- FINA Handbook 2002-2005. FINA, Lausanne.
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto

- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

6. PREVIOUS VERSIONS

- Guideline SU12 Supervision of Diving Towers and Springboards, Issue 2, July 1996
- Guideline RS9 Diving Towers and Springboards, Issue 1, August 1991

1. TITLE: **SUPERVISION OF DIVING TOWERS AND SPRINGBOARDS – Competitive Use**

2. DATE ISSUED: 14 November 2005 ISSUE: 1

3. PURPOSE: To provide guidance for the safer use of diving towers and springboards during competition. This guideline should be read in conjunction with the current FINA Handbook (www.fina.org) .

4. DESCRIPTION:

4.1 Maintenance

(a) The diving tower(s), platform(s) and springboard(s) should be inspected and checked as suitable for use prior to use on each day of operation.

(b) Faulty equipment should be isolated, signposted and reported for repair under normal operating procedures.

4.2 Diving towers and springboards should be supervised at all times they are in use.

(a) The supervising lifeguard must be able to recover a person from the deepest section of the pool.

(b) The lifeguard supervising the dive pool when the diving tower or springboards are open should, in no circumstances, have the additional responsibility of supervising any other pool space at that time.

(c) Additional equipment to assist deep water rescue should be provided in close proximity to the pool e.g. Swim fins

(d) Queuing and congestion on narrow stairways should be avoided.

4.3 Mechanical surface agitation shall be installed under the diving facilities to aid the divers in their visual perception and location of the surface of the water, and to break surface tension. In pools equipped with an underwater bubble machine, the machine should only be used for this purpose if it creates sufficient water agitation when working with a very low pressure; otherwise a horizontal water sprinkler system should only be used.

4.4 Water Entry

(a) Entry to the diving area from poolside should not be allowed when the diving boards are in use, thus minimising the risk of a collision.

(b) Entry off the tower or spring board should only be allowed when the previous user has exited the pool.

4.5 Signs which encourage the safe use of diving towers and springboards should be

displayed.

4.6 Springboards and towers located on opposite sides of a diving pool should not be used at the same time.

4.7 Particular care should be taken in open air pools on windy and busy days to avoid injury.

4.8 Water clarity in diving pools should be regularly monitored.

4.9 The diving pool must be free from any obstruction e.g. lane ropes, polo nets when in use for diving.

4.10 Where diving boards are installed at the deep end of a multi use pool, there must be at least 2.5 metres of clear space on each side of the board.

5. REFERENCES / FURTHER INFORMATION

- FINA Handbook 2002-2005. FINA, Lausanne.
- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

6. PREVIOUS VERSIONS

- Guideline SU12 Supervision of Diving Towers and Springboards, Issue 2, July 1996
- Guideline RS9 Diving Towers and Springboards, Issue 1, August 1991

1. TITLE: **SUPERVISION DURING THUNDERSTORMS (LIGHTNING)**

2. **DATE ISSUED:** 14 November 2005 ISSUE: 2

3. **PURPOSE:** To provide guidance on safe practice for the supervision of outdoor swimming pools during thunderstorms and lightning conditions. This Guideline should be read in conjunction with Guideline SU1 Bather Supervision

4. **DESCRIPTION:**

4.1 Outdoor Swimming Pools

(a) 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 structures.

(b) An outdoor swimming pool with spacious grounds, may pose a greater risk in lightning conditions. If there are structures such as diving towers, precautions should be taken. For example, the erection of a lightning conductor, higher than the dive tower, would reduce the likelihood of a lightning strike hitting the dive towers.

4.2 Supervision

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

(a) Evacuation

- The closure of the swimming pool is required when lightning is within 10km of the facility.
- Use the "flash-to-bang" method, by measuring the time between a lightning flash and the thunderclap, to estimate the distance away of the thunderstorm.
- When lightning is less than 10km away, people occupying the pool and pool surrounds should be evacuated to a covered area, which provides sufficient electrical earthing for a lightning strike. Gazebos, marquees and trees are not sufficient protection from lightning strikes.

(b) Resuming Pool Activities

- According to the National Lightning Safety Institute more lightning originates from the back edge 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.
- 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.

- Staff should continue to monitor the weather for changes as storm activity could return.

4.3 Electrical Equipment

(a) Electrical equipment should not be used during electrical storms.

(b) The use of portable, battery-powered PA systems (e.g. loud hailer) may be considered when the storm is very close, since fixed-installation PA systems may be struck by lightning.

(c) Telephones should not be used during electrical storms.

4.4 First Aid

(a) Anyone struck by lightning should be rescued as soon as it is safe to do so.

(b) The safety of the rescuers should be considered.

(c) The casualty should be moved to a covered area, assessed and treated.

4.5 Monitoring

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

(b) Detailed monitoring is available through the Bureau of Meteorology in each State and Territory.

5. REFERENCES / FURTHER INFORMATION

- AS/NZS 1768 (Int) 2003 Lightning Protection
- Kithil, Richard. Lightning and Aquatic Safety: A Cautionary Perspective for Indoor Pools. National Lightning Safety Institute. Cited 24/2/2004 at http://www.lightningsafety.com/nlsi_pls/indoor_pools.html
- Standards Journal 2, 2004, Lifesaving Society, Toronto
- www.bom.gov.au/info/thunder/#protection

6. PREVIOUS VERSIONS

- Guideline SU22 Supervision During Thunderstorms, Issue 1, Sep 1999

1. TITLE: EFFECTS OF ALCOHOL IN AN AQUATIC FACILITY

2. DATE ISSUED: 14 November 2005 ISSUE: 1

3. PURPOSE: To provide guidance on the management of alcohol related issues in aquatic facilities.

4. DESCRIPTION:

4.1 Alcohol has long been recognised as a contributing factor in many accidental drownings. It affects people's judgement, is likely to increase their risk-taking behaviour and at the same time diminishes their physical ability to carry out tasks. However, alcohol also has some health benefits when drunk in moderation and is widely accepted in society.

4.2 Lifeguards

Lifeguards should be free of alcohol (0.00 blood alcohol level) at all times whilst on duty.

4.3 Aquatic Facilities

If an aquatic facility wishes to serve alcohol to its patrons, it should:

(a) Conduct a thorough risk management assessment prior to deciding to serve alcohol. Refer to Guideline GO7 Risk Management in Aquatic and Leisure Centres for further advice on conducting a risk assessment.

(b) Take appropriate steps, such as locking doors, to prevent the patrons to whom it is serving alcohol, from accessing the water areas at that facility.

5. REFERENCES / FURTHER INFORMATION

- Aquatic Facility Management, Fawcett P. 2005. Human Kinetics, Champaign.
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.
- Swimming & Lifesaving, 5th Ed. 2004 The Royal Life Saving Society Australia, Mosby, Sydney
- Swimming Pool Supervision Guidelines and Recommended Standard, 1996, Hillary Commission, Wellington

1. TITLE: **SUPERVISION and TECHNOLOGY**

2. DATE ISSUED: 1 August, 2010 ISSUE: 1

3. PURPOSE: Technology can aid the provision of supervision in an aquatic facility in a number of ways. When technology is used for supervision, it should only be used as an aid and in addition to the supervision provided by lifeguards as detailed throughout the Supervision Guidelines and in particular Guideline SU1 Bather Supervision. Royal Life Saving recommends aquatic facilities review the available technology and consider implementing it where appropriate.

4. DEFINITION

Technology to aid supervision in an aquatic facility can include, but is not limited to radios, security alarms, emergency alarms, mobile or portable phones, closed circuit television and drowning detection systems.

5. DESCRIPTION

5.1 Risk Assessment

The possible installation and or use of technological systems to aid the provision of supervision at an aquatic facility should form part of the risk assessment on supervision needs (refer GSPO Guideline SU1 Bather Supervision and GSPO Guideline GO7 Risk Management).

5.2 Two Way Radios

Two-way radios provide instant communication between users. Aquatic facilities should consider using radios to enhance communications between lifeguards and between lifeguards and other facility staff, particularly in circumstances where line of sight communication may not be possible.

5.3 Mobile and Portable Phones

a) Mobile or portable phones can provide a lifeguard on deck with a means of quickly contacting emergency services and should be considered by aquatic facilities that operate with only two staff members or in Low Patronage mode (refer GSPO Guideline LP1).

b) At no times should a lifeguard use these phones for personal reasons whilst providing supervision.

5.4 Security Alarms

It is very unlikely that security alarms will provide any aid to supervision of the water at an aquatic facility whilst it is open for patrons; however they will once the facility is closed. Security alarms

that detect intruders should automatically alert a responsible person who can then go and check the facility once the alarm has been activated.

5.5 Emergency Alarms

a) Emergency alarms, with audible and visual warnings are required for spas and wave pools (Refer to GSPO Guidelines FD9 and FD22). These alarms once activated immediately alert staff that an emergency is occurring at these locations.

b) Emergency alarms can also be set up (for other aquatic areas such as the main pools) so that the alarm alerts an external person or organisation, such as an emergency service, which can then come to the aid of the aquatic facility. Aquatic facilities operating in Low Patronage mode (refer GSPO Guideline LP1) should consider implementing this technology as part of their emergency action plan (EAP).

5.6 Closed Circuit Television (CCTV)

CCTV can be used to aid the supervision of remote areas of an aquatic facility. If CCTV is to be used, the following conditions must be met:

a) It does not replace lifeguard supervision of pools, including spa pool. CCTV should only be used to augment lifeguard supervision.
b) The monitor of the CCTV must be manned at all times the relevant swimming pools are open so that incidents can be detected immediately.
c) The person monitoring the CCTV should be trained in how to recognize an aquatic emergency and must be able to contact the lifeguard(s) immediately in the event of an incident.
d) Factors such as glare, reflection on the surface of the water, turbidity of the water and obstructions in the line of sight can severely limit the usefulness of CCTV in providing supervision. These factors must be taken into consideration before any CCTV system is deployed to ensure that the person monitoring the system can see below the surface of the water and that there are no blind spots where an incident could happen undetected.
e) Patron privacy should be taken into account when determining the use and placement of CCTV cameras.

5.7 Drowning Detection Systems

a) Computer aided drowning detection systems use various systems of computer hardware and software to monitor the patrons in a swimming pool. When they detect patron behaviour that is out of the norm, such as being motionless underwater for 10 seconds, they activate their alarm system, notifying the lifeguards of the incident and their location. These systems have had considerable and demonstrable success in preventing drowning, particularly overseas and aquatic facilities should consider installing a drowning detection system.

b) If an aquatic facility does install a drowning detection system, it must not be used as a replacement for the supervision provided by the lifeguards. By definition, drowning detection systems are reactive and it is essential that lifeguards are present, supervising in a proactive manner. The drowning detection systems are a back up only for lifeguards, in case they do not see or recognise an incident.

6. REFERENCES / FURTHER INFORMATION

- PAS 65:2004 Management of public swimming pools – General management – Code of practice, British Standards Institution, 2004, London

1. TITLE: AQUATIC PROGRAM SUPERVISION

2. DATE ISSUED: 1 August, 2010 ISSUE: 1

3. PURPOSE: To provide a guide to the minimum ratio of qualified people per number of users participating in programs at an aquatic facility. This Guideline should be read in conjunction with GSPO Guidelines SU1 Bather Supervision, SU3 Supervision of Children, GO4 Hire of Facilities and GO7 Risk Management.

4. DESCRIPTION

4.1 Supervision Requirements

a) A risk assessment on supervision requirements should be completed by facility operators prior to establishing supervision ratios (refer GSPO Guidelines SU1 and GO7).

b) For programs conducted in aquatic facilities open to the public, all program participants, leaders, instructors and teachers (including swimming and water safety teachers) should be considered as bathers.

c) Where the number of bathers exceed the recommended ratio of lifeguards to bathers outlined in GSPO Guideline SU1 an additional person is required to actively supervise the area/facility.

d) The additional person should be provided in accordance with the minimum recommendations of supervision. Refer also to Guideline SU1, SU5, SU6, SU7 and SU9.

e) Programs conducted in private pools should refer to the Guidelines for Water Safety: Learn to Swim and School Pools.

4.2 Activities

Programs that may involve participants undertaking specific activities such as using inflatables, water slides, diving towers and boards and wave pools e.g. should also refer to the relevant GSPO Supervision guideline for that activity (refer GSPO Guidelines SU13 – 18 and SU23).

4.3 School Groups

a) Aquatic facilities who lease part or all of their pools to one or more school groups must undertake a risk assessment on the supervision requirements for these groups (refer GSPO Guidelines SU1 and GO7). This risk assessment must, at a minimum consider the following factors and should be recorded:

- Number of participants
- Age of participants
- Swimming ability of participants

- Lines of sight for supervision
- Surface reflection and glare
- Activities to be undertaken
- Depths of water in the pools
- Number of other bathers in the pool at the time
- Ability and experience of supervising staff.

b) All schools who are planning to take groups to an aquatic facility should undertake their own risk assessment. Schools should refer to their State/Territory Department of Education guidelines for further information.

c) As school groups will invariably involve a large increase in the number of (potentially young) children, aquatic facilities should consider providing a higher number of lifeguards for the group.

d) If the supervision risk assessment indicates that a higher ratio of lifeguards to bathers is necessary, then the aquatic facility shall implement the higher ratio.

e) Teachers who accompany a school group to an aquatic facility are still responsible for supervising the children in their care, in addition to the supervision provided by the facility. Schools and aquatic facilities should refer to their State/Territory Department of Education guidelines for further information.

5. OUTDOOR PROGRAMS

When a program is conducted in an outdoor venue, facilities should provide sunscreen and encourage the participants (or their guardians) to apply sunscreen and to wear additional clothing such as rash vests to protect the participants from the sun.

6. REFERENCES / FURTHER INFORMATION

- GSPO Guideline GO7 Risk Management
- GSPO Guideline LP1 Low Patronage Pools
- GSPO Guideline PR11 Aqua Exercise
- GSPO Guideline SU1 Bather Supervision
- GSPO Guideline SU3 Supervision of Children
- GSPO Guideline SU13 Inflatable Play Equipment
- GSPO Guideline SU14 Supervision of Inflatable Water Play Equipment
- GSPO Guideline SU15 Supervision of Floating Play Equipment
- GSPO Guideline SU16 Supervision of Wave Pools
- GSPO Guideline SU17 Supervision of Rivers
- GSPO Guideline SU16 Supervision of Water Slides (Flumes)
- GSPO Guideline SU21 Supervision of Diving (Recreational)
- GSPO Guideline SU23 Diving Towers and Springboards (Recreational)

1. TITLE: LICENSING AND THE TRAINING AND ASSESSMENT OF SWIMMING AND WATER SAFETY TEACHERS

2. DATE ISSUED: 2 April 2013 **ISSUE:** 3

3. PURPOSE: To outline the requirements for those employed as swimming and water safety teachers regarding:

1. Licensing
2. Training and Assessment

4. DESCRIPTION

This Guideline addresses two areas relating to swimming and water safety teachers who are employed to deliver learn to swim and water safety programs; requirements for licensing, and training and assessment. The Training and Assessment section describes the basis for entry level knowledge and skill acquisition required by those wanting to commence employment as a swimming and water safety teacher. The Licensing section describes the key requirements for ongoing verification that swimming and water safety teachers meet agreed industry standards and best practice.

5. LICENSING

5.1 Licensing Schemes

The licensing scheme must include the following requirements for swimming and water safety teachers:

5.1.1 Evidence of Training

a) Licensing requires evidence of competency based training and assessment as outlined in Section 6 of this Guideline.
b) For those teaching specialist groups, e.g. infant and pre-school aquatics, adults or people with disabilities, swimming and water safety teachers should undertake additional training appropriate to that group as outlined in Section 6 of this Guideline.

5.1.2 Practical Assessment

Licensing should include a practical assessment of the swimming and water safety teacher's personal aquatic and teaching skills by a representative of the licensing/certifying body.

5.1.3 Resuscitation and Emergency Care

a) Licensing must include verification of a current Cardio Pulmonary Resuscitation (CPR) certificate issued by a Registered Training Organisation.
b) The Australian Resuscitation Council recognises CPR certificates as being current for one year. It is the individual's responsibility to ensure currency of this certification.
c) Due to the nature of this role it is essential that this certification covers vital elements of rescue breathing as it relates to drowning victims.

5.1.4 Rescue Competency

Swimming and water safety teachers have a responsibility to ensure the safety of all participants within their class. Due to the nature of their role, swimming and water safety teachers should be able to identify and respond to an aquatic emergency and it is therefore recommended that swimming and water safety teachers maintain additional competencies in aquatic rescue (refer also GSPO Guidelines PR3 Standards of Competency in Aquatic Rescue for Swimming and Water Safety Teachers).

5.1.5 Evidence of Ongoing Professional Development

Swimming and water safety teachers have an obligation to undertake regular professional development to maintain competency with current standards in areas of safety and swim teaching methodology. Licensing must include a process of verification of ongoing professional development. Membership of a professional body does not by itself constitute professional development.

5.2 Consultation

To ensure licensing appropriately reflects the needs of industry and current standards of professional competence the licensing body should have the ability to engage relevant stakeholders in the development and review of policies and principles regarding the content and functioning of the licensing system.

5.3 Existing Licensing Schemes

The AUSTSWIM Teacher Licence is the current standard for the licensing of swimming and water safety teachers. AUSTSWIM has undertaken licensing of swimming and water safety teachers since 1979. The AUSTSWIM licensing scheme complies with this criteria through:

a) Requiring and citing evidence of training and assessment.
b) Reinforcing the need for CPR certification.
c) Reinforcing the need for training and assessment in rescue skills.
d) Requiring evidence of ongoing professional development.
e) Having specific mechanisms to engage industry in all decision making in relation to licensing via its governance structure including membership by the Australian Leisure

Facilities Association, Royal Life Saving Society – Australia, Surf Life Saving Australia, Swimming Australia, YMCA and state and territory advisory committees.

6. TRAINING AND ASSESSMENT

6.1 a) Training and assessment for swimming and water safety teachers must be competency based. These competencies are currently governed by Service Skills Australia and are as follows:

- SISCAQU202A Perform basic water rescues
- SISCAQU308A Instruct water familiarization, buoyancy and mobility skills
- SISCAQU309A Instruct clients in water safety and survival skills
- SISCAQU310A Instruct swimming strokes
- SISCCRO302A Apply legal and ethical instructional skills

These competencies are subject to ongoing review and change by Service Skills Australia. For current versions of these competencies, refer to www.training.gov.au.

b) Training and assessment should include a period of supervised on the job training and assessment.

c) The Australian Quality Training Framework dictates that this training and assessment be provided by a Registered Training Organisation.

d) In a best practice model, the final assessment of the swimming and water safety teacher should be conducted by someone who has not, up to that time, participated in the candidate's training and assessment.

6.2 Extension Programs

For those teaching specialist groups, e.g. infant and pre-school aquatics, adults or people with disabilities, swimming and water safety teachers should undertake additional training and assessment appropriate to that group. The extension program should involve the following:

a) Training and assessment in the teaching of the specified target group
b) Supervised on-the-job training in the teaching of the specified target group
c) Practical on-the-job assessment in the teaching of the specified target group

Refer to GSPO Guidelines PR5 and PR6 for further information.

7. EMPLOYER RESPONSIBILITIES

a) It is the employer's responsibility to check:

- the status of an individual's training and assessment and licensing

- the currency of the licensing
- that employees are capable of performing to the standard required whenever they are involved in a swimming and water safety program

b) The required competencies in the training of a swimming and water safety teacher are an indication of the competence of the individual at the time of the assessment. Regular training is required to ensure that adequate standards are maintained.

c) Employers should also conduct a "Working with Children" check or equivalent as required by relevant State or Territory legislation, prior to employing a swimming and water safety teacher.

8. REFERENCES / FURTHER INFORMATION

- GSPO Guideline PR5 Infant And Preschool Aquatic Programs
- GSPO Guideline PR6 Aquatic Programs for People with Disabilities
- Australian Resuscitation Council Guideline 9.1.1, Cardiopulmonary Resuscitation Training
- Practice Note 15 Water Safety, 2005, Department of Local Government, NSW
- Service Skills Australia, www.serviceskills.com.au
- Standards for State and Territory Registering/Course Accrediting Bodies, 2005, Australian National Training Authority
- AS ISO/IEC 17024 – 2004 Conformity assessment – General requirements for bodies operating certification of persons, 2004, Standards Australia.
- AUSTSWIM Standards for Teachers of Swimming and Water Safety, 2011, Australian Council for the Teaching of Swimming and Water Safety (AUSTSWIM).

9. PREVIOUS ISSUES

- Guideline PR1 Standard of Swimming Teacher Education, Issue 2, July 1996
- Guideline LTS1 Standard of Swimming Teacher Education, Issue 1, August 1991

1. TITLE **SWIMMING AND WATER SAFETY TEACHER EMERGENCY PROCEDURES**

2. DATE ISSUED 2 April 2013 **ISSUE:** 4

3. PURPOSE To provide guidance regarding appropriate emergency procedures during the conduction of swimming and water safety programs.

4. DESCRIPTION

4.1 The responsibility of the swimming and water safety teacher is for the class being taught, not the users of the rest of the facility. However, after securing the safety of their class and under the direction of a responsible person, e.g. the facility manager, the swimming and water safety teacher may be required to participate in any emergency situations as and when they arise and after first securing the safety of their class.

4.2 Training

Swimming and water safety teacher training should provide initial guidance and training for teachers in regard to emergency procedures for learn to swim and water safety programs.

4.3 Liaison with Facility Management

a) All aquatic facilities should have an emergency procedure plan (refer GSPO Guideline GO2 Emergency Action Plan).
b) Teachers whether teaching, swimming or supervising should be aware of and understand relevant emergency procedures.
c) Swimming and water safety teachers and facility managers should liaise on this matter to ensure that the procedures including key emergency service telephone numbers are on display and easily accessible.

4.4 In-Service Education and Induction

a) Emergency procedures should be practised regularly by all personnel staffing an aquatic facility, including swimming and water safety teachers, to ensure such procedures are functional and appropriate (refer GSPO Guideline GO2 Emergency Action Plan).
b) All swimming and water safety teachers should undergo an induction on the facilities emergency action plan at the commencement of employment.
c) Attendance at and content of in-service and induction sessions should be recorded.

4.5 Emergency Information for Programs

a) The participants of all programs in an aquatic facility, including 'schools' programs, should be provided with relevant information on the facility's emergency action plan, particularly evacuation procedures prior to the start of their program. If the program extends for more than one session, then this information should be provided prior to the start of the first session (refer GSPO Guideline GO4 Hire of Facilities).
b) Attendance at and content of the induction sessions should be recorded.
c) For 'schools' programs, aquatic facilities should also refer to their relevant State/Territory Department of Education Guidelines.

4.6 Employing Agency Responsibility

It is the responsibility of employing agencies to ensure that emergency procedures are in place, practised and that all staff understands their role in an emergency.

5. REFERENCES / FURTHER INFORMATION

- GSPO Guideline GO2 Emergency Action Plan
- GSPO Guideline GO4 Hire of Facilities
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney

6. PREVIOUS ISSUES

- Guideline PR2 Swimming Teaching Emergency Procedures, Issue 3, July 1996
- Guideline LTS2 Swimming Teaching Emergency Procedures, Issue 3, January 1994
- Guideline LTS2 Swimming Teaching Emergency Procedures, Issue 1, August 1991

1. TITLE **STANDARDS OF COMPETENCY IN AQUATIC RESCUE FOR SWIMMING AND WATER SAFETY TEACHERS**

2. DATE ISSUED 2 April 2013 **ISSUE:** 4

3. PURPOSE To provide a guide to the minimum standard of competency in aquatic rescue for swimming and water safety teachers.

4. DESCRIPTION

Swimming and water safety teachers have a responsibility to ensure the safety of all participants within their class. Due to the nature of their role, swimming and water safety teachers should be able to identify and respond to an aquatic emergency and it is therefore recommended that swimming and water safety teachers maintain competency in aquatic rescue.

5. Rescue Competency

a) Swimming and water safety teachers should hold competencies in aquatic rescue which is appropriate to the environment and venue in which they teach. The minimum aquatic rescue competency for swimming and water safety teachers is as follows and should form part of training and assessment for swimming and water safety teachers:

- SISCAQU202A Perform basic water rescues

b) This unit of competency should be issued by a Registered Training Organisation.

c) Swimming and water safety teachers should regularly review aquatic rescue skills. Review of aquatic rescue skills should form part of regular in-service training programs or professional development and should reinforce the following skills:

- the ability to identify incidents that may require aquatic rescue, and
- the ability to perform basic non-swimming and swimming rescues using techniques appropriate to common aquatic incidents.

6. Resuscitation and Emergency Care

a) Swimming and water safety teachers must hold a Cardio Pulmonary Resuscitation (CPR) certificate issued by a Registered Training Organisation and be awarded or updated within the previous twelve months.

b) The Australian Resuscitation Council (ARC) recognises CPR certificates as being current for one year. Employers and employees should ensure that all qualifications remain current.

7. Need for Training

a) Completion of the CPR and water rescue components is an indication of the competence of a person at the time of the assessment. Regular training is required to ensure that adequate

standards are maintained (refer GSPO Guideline PR2 Swimming and Water Safety Teacher Emergency Procedures).

b) It is the employer's responsibility to ensure that employees are capable of performing to the standard required whenever they are involved in a swimming and water safety program.

8. REFERENCES / FURTHER INFORMATION

- GSPO Guideline PR2 Swimming and Water Safety Teacher Emergency Procedures
- Australian Resuscitation Council Guideline 9.1.1, Cardiopulmonary Resuscitation Training
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney

9. PREVIOUS ISSUES

- Guideline PR3 Standards of Swimming Teacher Safety Qualifications, Issue 3, July 1996
- Guideline LTS3 Standards of Swimming Teacher Safety Qualifications, Issue 2, January 1994
- Guideline LTS3 Standards of Swimming Teacher Safety Qualifications, Issue 1, August 1991

1. TITLE **TEACHING SWIMMING AND WATER SAFETY - TEACHER STUDENT RATIOS FOR SAFETY**

2. DATE ISSUED 2 April 2013 **ISSUE:** 3

3. PURPOSE To provide guidance regarding the appropriate levels of teacher to student ratios in relation to the teaching of swimming and water safety.

4. DEFINITION

4.1 For programs conducted in aquatic facilities open to the public, all program participants, leaders, instructors and teachers (including swimming and water safety teachers) should be considered as bathers as per GSPO Guidelines SU1 Bather Supervision and SU28 Aquatic Program Supervision.

4.2 The information below relates to issues of safety, not ratios considered ideal for teaching effectiveness.

4.3 The responsibility of the swimming and water safety teacher is for the class being taught, not the users of the rest of the facility.

4.4 These teacher:student ratios are for learn to swim and water safety classes only. Refer to GSPO Guideline PR5 for teacher:student ratios for infant and preschool aquatic programs.

5. DESCRIPTION

5.1 Nature of the Environment and Group

Appropriate teacher:student ratios will depend upon issues such as:

- the environment
- level of ability of the class
- nature of the person/people being taught including learning ability
- relevant medical conditions of the person/people being taught
- the type of activity
- the skill and ability of the teacher
- the number and skill level of any assistants
- the venue
- the weather

When these factors create difficulties in supervision or control and increase risk, it is recommended that the teacher:student ratio is increased with additional qualified teachers.

5.2 Number of Qualified Personnel

In addition to the accredited swimming and water safety teacher undertaking the swimming and water safety instruction and who is responsible for the students, a second person, who is capable of providing assistance in the case of an emergency, should be available in accordance with GSPO Guidelines SU28 Aquatic Program Supervision (Refer also GSPO Guideline SU1, SU5, SU6, SU7 and SU9).

5.3 Ratios

For the safety of the students, the following maximum ratios are recommended for swimming and water safety lessons conducted in swimming pools:

a) For the teaching of beginners, with little or no experience, in shallow water the maximum teacher:student ratio for a swimming pool is 1 teacher to 10 students.

b) For the teaching of intermediate students who have basic skills and can swim 25 metres with a recognisable stroke and can demonstrate comfort and confidence in the aquatic environment (out of own depth), the maximum teacher:student ratio for a swimming pool is 1 teacher to 12 pupils.

c) For the teaching of advanced students who are able to swim 50 metres using two recognisable strokes, demonstrate one survival stroke in deep water and display comfort and confidence in the aquatic environment, the maximum teacher:student ratio for a swimming pool is 1 teacher to 15 pupils.

5.4 Groups with Special Needs

Special groups may require specific attention and a needs analysis should be conducted. The teacher:student ratio may need to be one on one depending on the circumstances (refer also GSPO Guideline PR6).

5.5 Student Supervision

a) Each accredited swimming and water safety teacher must ensure that they are appropriately positioned to ensure that they have constant view of all students and are able to respond promptly where assistance is required.

b) Rescue equipment such as ropes, poles and approved buoyancy devices that can be used for emergencies should be readily available for use by swimming and water safety teachers.

c) All staff involved in swimming instruction must be attired to perform an immediate contact rescue if necessary.

6. REFERENCES / FURTHER INFORMATION

- GSPO Guideline PR5 Infant and Preschool Aquatic Programs
- GSPO Guideline PR6 Aquatic Programs for People with Disabilities
- GSPO Guideline SU28 Aquatic Program Supervision
- GSPO Guideline SU1 Bather Supervision

- GSPO Guideline SU5 Accreditation for Pool Lifeguards
- GSPO Guideline SU6 Lifeguard Health & Fitness
- GSPO Guideline SU7 Lifeguard Induction & In-service Training
- GSPO Guideline SU9 Lifeguard Clothing & Equipment
- Infant and Preschool Program Guidelines, Version 1, AUSTSWIM, 2010.
- Guidelines for Teaching Infant and Preschool Aquatic Programs, Version 3, AUSTSWIM, 2002
- Guidelines to Teaching Swimming and Water Safety Programs, Version 3, AUSTSWIM, 2002
- Aquatics to People with a Disability Programs, Version 2, AUSTSWIM, 2002

6. PREVIOUS ISSUES

- Guideline PR4 Teaching Swimming – Teacher Pupil Ratios for Safety, Issue 2, July 1996
- Guideline PR4 Teaching Swimming – Teacher Pupil Ratios for Safety, Issue 1, August 1991

1. TITLE **INFANT AND PRESCHOOL AQUATIC PROGRAMS**

2. DATE ISSUED 2 April 2013 **ISSUE:** 3

3. PURPOSE To outline the guidelines for the conduct of aquatic activity for children less than five years of age.

4. DESCRIPTION

4.1 Irrespective of their aquatic ability, infants, toddlers and preschoolers are never safe when in or around water and must be under constant adult supervision.

4.2 Infants, toddlers and preschoolers should be able to learn at their own pace and never be forced to be involved in water activities.

4.3 The parent or carer of the child must be responsible for making sure that the child is in good health while attending aquatic programs. If there is a known health issue, the child should have a doctor's certificate stating that he or she is fit to participate in the program.

4.4 Teachers conducting programs for children 6 months to 5 years of age should have the appropriate AUSTSWIM accreditation or equivalent for teaching infants, toddlers and preschool aquatics.

4.5 The swimming and water safety teacher should provide in-water instruction.

4.6 The water temperature for this age of child should be sufficiently high (recommended minimum of 30ºC for infants) to ensure the pupils are comfortable and do not become unduly cold. Where possible, the pool should be protected from the wind as wind chill can cause a child to lose body heat rapidly.

4.7 In-water class times should not exceed 30 minutes for infants.

4.8 Aquatic facilities should ensure policies are in place that requires infants and toddlers who are not toilet trained to wear a fitted and approved swimming nappy for public health reasons. Any child having a bowel movement should leave or be removed immediately from the water, showered and changed into clean clothing. Soiled clothing and nappies (including aqua nappies) should be disposed of carefully. The appropriate person should be notified immediately if any bowel movement escapes into the pool.

5. INFANTS LESS THAN 6 MONTHS OF AGE

5.1 It is not recommended that children under 6 months of age participate in formal aquatic programs.

5.2 During their first 6 months infants should participate in informal casual water play activities under in-water supervision of parents, guardians or carers.

6. INFANTS 6 MONTHS TO 24 MONTHS OF AGE

6.1 Aquatic programs for children from 6 months to 24 months of age should be promoted as water familiarisation (getting used to being in water). Other terms such as "drown-proofing", "waterproofing" or "water safe" should not be used as they suggest some sort of guarantee.

6.2 Emphasis should be placed on the fact that children learn best through play and all activity should be in the form of games or structured play with ample opportunity for exploration in a happy non-threatening atmosphere.

6.3 Each infant must be accompanied in the water by one parent or carer.

6.4 Parents must closely supervise their infants carefully at all times when they are in or near water.

6.5 The maximum teacher:infant (baby) ratio is 1 teacher to 8 infants (with parents).

7. TODDLERS 24 – 36 MONTHS OF AGE

7.1 Each toddler must be accompanied in the water by one parent or carer.

7.2 Parents/carers must closely supervise their toddlers carefully at all times when they are in or near water.

7.3 The maximum teacher: toddler ratio is 1 teacher to 8 infants (with parents).

7.4 Flotation aids may assist with the gaining of confidence but flotation aids are not life saving devices and must only be used under competent adult supervision. Floatation aids must meet the requirements of Australian Standard AS 1900-2002 Flotation aids for water familiarization and swimming tuition.

7. PRESCHOOL CHILDREN 36 – 42 MONTHS OF AGE

7.1 Parents/carers must closely supervise their preschool children carefully at all times when they are in or near water.

7.2 The maximum teacher:preschooler ratio is 1 teacher to 4 children.

8. PRESCHOOL CHILDREN 42 – 60 MONTHS OF AGE

8.1 Parents/carers must closely supervise their preschool children carefully at all times when they are in or near water.

8.2 The maximum teacher:preschooler ratio is 1 teacher to 5 children.

9. REFERENCES / FURTHER INFORMATION

- Infant and Preschool Program Guidelines, Version 1, 2010, AUSTSWIM, Melbourne.
- Guidelines to Teaching Swimming and Water Safety Programs, Version 3, 2002, AUSTSWIM, Melbourne.
- Australian Standard AS 1900-2002 Flotation aids for water familiarization and swimming tuition, SAI Global, Sydney

10. PREVIOUS ISSUES

- Guideline PR5 Preschool Aquatic Programs – Under 12 Months, Issue 2, July 1996
- Guideline LTS5 Preschool Aquatic Programs – Under 12 Months, Issue 1, August 1991
- Guideline PR6 Preschool Aquatic Programs – Twelve Months to Three Years of Age, Issue 2, July 1996
- Guideline LTS6 Preschool Aquatic Programs – Twelve Months to Three Years of Age, Issue 1, August 1991
- Guideline PR7 Preschool Aquatic Programs – Three to Five Years of Age, Issue 2, July 1996
- Guideline LTS7 Preschool Aquatic Programs – Three to Five Years of Age, Issue 1, August 1991

1. TITLE: AQUATIC PROGRAMS FOR PEOPLE WITH DISABILITIES

2. DATE ISSUED: 2 April 2013 **ISSUE:** 2

3. PURPOSE: To outline the guidelines for the conduct of aquatic activity for those who have a disability requiring additional needs.

4. DESCRIPTION: There is a large range of human disabilities which may inhibit full involvement in aquatic activity with more able bodied people, including physical, mental, audible and visual impairment.

4.1 Staff should be aware of the presence of patrons participating in programs with impaired mobility.

4.2 Appropriate Facilities

Where aquatic facilities provide aquatic programs for people with a disability, consideration should be given to where these programs are held. Factors to be considered include

- Access to the aquatic facility
- Access to the pool
- Entry and egress from the pool
- Water temperature
- Available changing facilities

4.2 Staff Training

a) Staff should be trained in safe lifting techniques for the provision of assistance to patrons with a disability and for the emergency removal of patrons.
b) Staff should also be trained in communicating with people with a disability to reduce the chance for confusion and possible embarrassment from both parties.
c) Staff could be trained in three or four basic 'sign language' movements for use with the audibly impaired in emergency situations.

4.3 Teachers conducting programs for people with disabilities should hold the appropriate AUSTSWIM certificate or equivalent for teaching people with disabilities.

4.4 a) For the safety of people with a disability, it is recommended that each person be given an individual assessment of his or her needs by the Care-giver and the teacher prior to and during instruction.

b) There are many people with a disability who may not require a Care-giver and as such direct liaison with the teacher will be appropriate.
c) The maximum teacher: student ratio for swimming pool instruction is 1 teacher to 6 students.
d) There may be people with a disability who may require the constant supervision of the in-water teacher with a teacher: student ratio of 1 teacher to 1 or 2 students.
e) Care-givers may be required to provide in-water care and should be prepared accordingly.

5. REFERENCES / FURTHER INFORMATION

- Aquatics to People with a Disability Programs, Version 2, 2002, AUSTSWIM, Melbourne.
- Australian Standard AS 1900-2002 Flotation aids for water familiarization and swimming tuition, SAI Global, Sydney

6. PREVIOUS ISSUES

- Guideline PR8 Disability Aquatic Programs, Issue 1, July 1996

1. TITLE: TEACHING OF DIVING

2. DATE ISSUED: 2 April 2013 **ISSUE:** 3

3. PURPOSE: To outline the safety considerations for the teaching of safe water entry and diving skills for beginners.
Note: These guidelines are designed to pertain only to the teaching of swimming and safe water entries (refer GSPO Guideline SU21 & 22).

4. DEFINITION

A dive is defined as entry into water where the upper body (the hands, arms and head followed by the torso and lower limbs) enters first during activities, which are conducted under aquatic programming such as:

- Swimming and related (triathlon, distance swimming) squad training and competition
- Lifesaving classes
- Swimming and water safety classes

Note: Other entries such as compact, stride, feet first and fall may be taught as part of a valid water safety program.

5. DESCRIPTION

5.1 Introductory Information

a) Prior to the commencement of the teaching of water entries and diving it is important that the teacher understand and give consideration to specific safety factors, including the depth of water into which the learner will enter and the height from which they will enter.

b) The student should be educated in the dangers of diving into known and unknown pools, lakes, dams, rivers, creeks and at beaches or in the ocean.

c) The student on their first visit to the water environment in which the instruction is to take place should receive a facility familiarisation induction on the safety considerations prior to entering the water.

5.2 Basic Safety Rules

a) The depth of water should be checked by both the teacher and the student before entry into any body of water. In many natural water environments the depth may vary during the period of one session and should be regularly monitored.

b) It is recommended practice to slide in to check the water depth is adequate before diving, particularly in unfamiliar areas.

c) Check for water depth signs.
d) Ensure that the water area and surrounds into which entry is anticipated is free of obstruction (e.g. bathers, toys, lane ropes).
e) Dive away from the pool edge.

5.3 Minimum Water Depths

a) For the teaching of crouching and standing dives, it is preferable to have a depth of 2000mm.
b) A minimum depth for the teaching of crouching and standing dives is 1500mm.
c) It is recognised that some pools may not be able to provide appropriate water depths. It is suggested the above be used as guidance only and be followed where possible. If the preferred minimum water depth is not available, a risk assessment should be conducted and all teachers of swimming and water safety should be informed of its findings and recommendations.
d) This risk assessment and training should be recorded.

5.4 Progressive Instruction

The teaching of safe water entries and diving should be taught progressively in the following sequence.

- In water push glide from standing position
- Pool side, seated
- Pool side, standing crouched
- Pool side, standing
- Starting block.

Progression to the next level should only be permitted following successful demonstration of the current skill.

5.5 Diving from Starting Blocks

a) Diving from starting blocks should only be taught by an accredited swimming coach (refer GSPO Guideline PR8).
b) Flat racing type dives should initially be taught from the concourse in a minimum water depth of 1500mm (preferably 2000mm) with a distance of 5000mm from the pool wall before allowing entry from a starting block.
c) Flat racing type dives should be able to be consistently performed from poolside before allowing a flat racing type dive from a starting block installed in accordance with GSPO Guideline FD 24 Design of Starting Blocks.

5.6 Minimum Qualifications

Only qualified swim coaches, lifesaving instructors (excepting beach lifesaving), and licensed swimming and water safety teachers should instruct safe water entries and diving skills.

5.7 Other Diving Considerations

a) Running dives should not be permitted.

b) Diving should not be permitted in a wave pool when waves are in motion.

c) Diving classes should be segregated from swimming areas, and one teacher should not attempt to carry out simultaneous diving and swimming instruction in the same class at the same time.

6. REFERENCES / FURTHER INFORMATION

- GSPO Guideline FD24 Design of Starting Blocks (Starting Platforms)
- GSPO Guideline SU22 Safe Water Entry For Competitions
- GSPO Guideline PR8 Qualifications For Providing Safe Aquatic Programs
- Teaching Swimming and Water Safety – The Australian Way, 2nd Ed, 2008, Mosby
- Safe Depths for Teaching Children to Dive (Blanksby B.A, Wearne F.K, Elliott B.C 1996), The Australian Journal of Science and Medicine in Sport.

7. PREVIOUS ISSUES

- Guideline PR9 Teaching of Water Entry and Diving, Issue 2, November 2002
- Guideline PR9 Teaching of Water Entry and Diving, Issue 1, July 1996

1. TITLE: QUALIFICATIONS FOR PROVIDING SAFE AQUATIC PROGRAMS

2. DATE ISSUED: 2 April 2013 **ISSUE:** 2

3. PURPOSE: To establish the minimum standard of accreditation for those employed or contracted to act as instructors or leaders of aquatic programs.
Note: This guideline does not include learn to swim programs (Refer to GSPO Guideline PR1).

4. DEFINITION

4.1 The term 'instructor' describes:

a) an appropriately qualified person specifically employed or contracted to instruct a person in a skill or set of skills; or

b) an appropriately qualified person specifically employed to supervise or lead an aquatic activity, even when supervision or leadership does not involve instruction of specific skills.

4.2 The term 'instruction' describes supervision or leadership of an activity, regardless of whether the supervision or leadership involves instruction of specific skills.
Note: These definitions apply to all guidelines in the Aquatic Program Section.

5. DESCRIPTION:

5.1 Priorities for the Aquatic Program Instructor

a) The primary role of the aquatic program instructor is to teach participants the skills required to successfully perform the activity, or lead the activity, which is the focus of the program.

b) The safety of participants should be an integral part of the planning of the program and the role of the instructor or leader.

5.2 Suitability of Qualifications / Appropriateness of Qualifications

5.2.1 While many qualifications for instruction of aquatic activities contain water safety and rescue components, it must be recognised that they are primarily instructional rather than rescue-focused. In addition, general water safety principles and rescue procedures for those activities normally run in natural water environments may not be entirely suitable for venues such as swimming pools. Accordingly, it is recommended that instructors hold the following qualifications:

a) a CPR certificate issued by a registered training provider;

b) a recognised minimum qualification for instruction of the programmed activity, provided that the qualification includes a water safety and rescue component (refer Section 5.5); and

c) due to the nature of their role, aquatic program instructors should be able to identify and respond to an aquatic emergency and it is therefore recommended that aquatic program instructors maintain additional competencies in aquatic rescue (refer also GSPO Guidelines PR3 Standards of Competency in Aquatic Rescue for Swimming and Water Safety Teachers)a 'Working with Children' check or equivalent.

5.2.2 Instructors should also be informed and trained in the emergency procedures for the venue in which they are employed (refer GSPO Guideline GO2 Emergency Action Plans).

5.2.3 The qualifications required for the instruction of an aquatic activity should be appropriate for:

a) the activity program;

b) the skills required of, or to be learned by, participants; and

c) the environment in which the program is conducted.

5.2.4 Employers may take as a guide the minimum qualifications required of instructors or by professional associations representing such programs or activities in other environments.

5.3 Validity of Qualifications

5.3.1 The Australian Resuscitation Council recognises CPR qualifications as being current for one year.

5.3.2 Organisations issuing water safety, rescue, and instructional qualifications require that such qualifications should be renewed regularly or that holders of those qualifications regularly renew pre-requisites to maintain the validity of the qualification (refer Section 5.7).

5.3.3 Employers, employees, and contractors should ensure that all qualifications are current.

5.4 In-Service Training

5.4.1 a) Emergency procedures should be practised regularly by all personnel

staffing an aquatic facility, including program leaders and instructors, to ensure such procedures are functional and appropriate (refer GSPO Guideline GO2 Emergency Action Plan).

b) All program leaders or instructors should undergo an induction on the facilities emergency action plan at the commencement of employment.

c) Attendance at and content of in-service and induction sessions should be recorded.

5.4.2 It is the employer's responsibility to ensure those employees and contractors involved in aquatic programs are:

a) capable of performing CPR and rescues; and

b) familiar with, and capable of participating as required in, emergency procedures for the venue or the program.

Note: These should be assessed prior to commencement of duties.

5.5 Minimum Qualifications

The following minimum qualifications for aquatic activities are recommended:

5.5.1 Lifesaving Classes

The following RLSSA awards require the following qualifications:

a) Rescue Awards 1-4 - AUSTSWIM Teacher of Swimming and Water Safety, RLSSA Junior Instructor, RLSSA Instructor, or Equivalent Qualification.

b) Bronze Star - RLSSA Instructor / examiner or Equivalent Qualification.

c) Bronze Medallion - RLSSA Instructor / examiner or Equivalent Qualification.

d) Bronze Cross and higher - RLSSA Instructor / examiner or Equivalent Qualification.

5.5.2 Swimming Coaching Swimming Australia Ltd Bronze Coach Licenses or Equivalent Qualification (as recognised under the National Coaching Accreditation Scheme).

5.5.3 Diving Coaching Australian Coaching Council / National Coaching Accreditation Scheme Level 1 or Equivalent Qualification.

5.5.4 Pool Parties RLSSA Swim Teachers' Rescue Award or Equivalent Qualification.

5.5.5 Aqua-Instructors Certificate III in Fitness with specialty unit SISFFIT310A – Plan and deliver water based fitness activities.

Note: This competency is subject to ongoing review and change by Service Skills Australia. For current versions of these competencies, refer to www.training.gov.au.

5.5.6 Aqua Trainers Certificate IV in Fitness with specialty unit SISFFIT422A – Implement inclusive aquatic activities for specific population groups.

Note: This competency is subject to ongoing review and change by Service Skills Australia. For current versions of these competencies, refer to www.training.gov.au.

5.6 Extension Programs

Many accrediting organisations provide extensions or additional qualifications. Some are listed above. Others relate to training qualified staff or trainers. Instructors should seek, and employers should encourage, additional qualifications appropriate to the group being taught or supervised.

5.7 Re-registration

Many accrediting organisations require that instructors re-qualify for registration at regular intervals. Minimum qualifications are maintained either through a re-examination of required skills, accumulation of continuing education credits/points or presentation of proof of the currency of pre-requisites for the qualification.

5.8 Proof of Accreditation

It is the employer's responsibility to ensure that:

a) instructors and or leaders are appropriately qualified;
b) the instructor's or leader's qualifications are current; and
c) instructors and leaders are able to perform any activities within the qualification, particularly those relating to water safety, and additional safety or emergency procedures required at the place of employment.

6. REFERENCES / FURTHER INFORMATION

- GSPO Guideline GO2 Emergency Action Plans
- GSPO Guideline PR1 Standard of Swimming and Water Safety Teacher Training and Assessment
- GSPO Guideline PR2 Standard of Swimming and Water Safety Teacher Accreditation
- GSPO Guideline PR3 Swimming and Water Safety Teacher Emergency Procedures
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney
- Australian Resuscitation Council Guideline 9.1.1, Cardiopulmonary Resuscitation Training

7. PREVIOUS ISSUES

- Guideline PR10 Qualifications for Providing Safe Aquatic Programs, Issue 1, January 2001

1. TITLE: AQUA EXERCISE

2. DATE ISSUED: 2 April 2013 **ISSUE:** 2

3. PURPOSE: To provide guidance on the standard of supervision of aqua exercise classes.

4. DEFINITION:

4.1 Aquatic based exercise classes (aqua aerobics) are low impact classes undertaken in varying water depths.

4.2 The responsibility of the instructor is for the class being taught, not the users of the rest of the facility. However, after securing the safety of their class and under the direction of a responsible person, e.g. the facility manager, the instructor may be required to participate in any emergency situations as and when they arise and after first securing the safety of their class.

5. DESCRIPTION:

5.1 The minimum qualifications for conducting aqua exercise classes are:

- Current CPR certificate
- Completion of Aqua Instructor and/or Aqua Trainer qualification from the Sport, Fitness and Recreation Training Package (refer GSPO Guideline PR8 Qualifications for Providing Safe Aquatic Programs).
- Aquatic Rescue Award or Equivalent Qualification. E.g. Swim Teachers Rescue Award.

5.2 Pool Supervision

5.2.1 It is acceptable for the leader to be considered the Pool Supervisor, where the aqua exercise class participants are the only participants in the pool.

5.2.2 Where the aqua exercise instructor is the Pool Supervisor.

a) The instructor should have access to and be trained in the following equipment:
   - First aid equipment
   - Oxygen equipment
   - Emergency communication system (E.g. phone), and/or

b) Have another suitably qualified person on duty in accordance with the supervision requirements of GSPO Guideline SU1.

5.3 Emergency Procedures

5.3.1 Emergency procedures should be practised regularly by all personnel staffing a facility, including aqua exercise class leaders.

5.3.2 These procedures should be documented and staff knowledge of emergency routines tested regularly.

5.3.3 Participants should be made aware of emergency signals and instructed on what to do should an emergency occur.

5.4 Employing Agency Responsibility

5.4.1 It is the responsibility of employing agencies to ensure that emergency procedures are in place, practised and that all staff understands their role in an emergency.

5.5 Instructor: Participant Ratio for Safety

5.5.1 Appropriate Instructor:Participant ratios will depend upon issues such as:

- environment
- level of ability of the class
- nature of the participants
- type of class
- instructor's qualification, experience and competency
- venue
- pool space available
- water depth
- weather

5.5.2 Recommended Instructor:Participant ratios -

a) Aqua instructor sole supervision 1:30 (maximum)
b) Aqua instructor plus lifeguard 1:40 (maximum)

5.6 Pool Conditions/Environment

5.6.1 Classes should be conducted in clearly designated areas.

5.6.2 The class should be under visual control of the instructor/s at all times.

5.6.3 Ideally the pool water temperature should be between 24ºC and 33ºC.

5.6.4 If the water temperature exceeds 29ºC, exercises should be completed at a slower pace with longer recovery times. Class participants should be strongly encouraged to rehydrate on a regular basis and the aqua instructor should be vigilant for signs of heat stress.

5.6.5 If the water temperature is below 24ºC the activity should be continual.

5.6.6 Classes should not be conducted in water temperature below 17ºC.

5.6.7 For standing exercises classes should be conducted in water no greater than shoulder height.

5.6.8 All participants should be encouraged to have water bottles and replace fluids regularly during the class.

5.7 Class Introduction

5.7.1 Prior to beginning each class an introductory preamble by the instructor should assess:

- the experience of the participants
- known medical problems and injuries
- the approximate fitness level of the participants

5.7.2 The introductory preamble by the instructor should provide participants with the information on the following:

- Emergency procedures (how to raise the alarm)
- Pacing themselves appropriately, including taking breaks as required
- Regular hydration

5.8 Aqua Exercise Equipment

5.8.1 Aqua exercise equipment should not be placed so that it impedes on traffic flow areas e.g. pool concourse.

5.8.2 Exercise mats should be constructed of a non-slip material and be placed to avoid being a trip hazard to the instructor and others.

5.8.3 Recommend that all equipment be checked prior to class commencement.

5.8.4 Recommend that all mains power sound equipment should have earth-leakage protection fitted and be positioned so as to reduce the risk of electrocution.

6. REFERENCES / FURTHER INFORMATION

- GSPO Guideline GO2 Emergency Action Plans
- Australian Standard AS 3745-2002 Emergency control organization and procedures for buildings, structures and workplaces, SAI Global, Sydney
- Australian Resuscitation Council Guideline 9.1.1, Cardiopulmonary Resuscitation Training

7. PREVIOUS ISSUES

- Guideline PR11 Aqua Exercise, Issue 1, January 2001

1. TITLE: AQUATIC PROGRAM EQUIPMENT

2. DATE ISSUED: 2 April 2013 **ISSUE:** 1

3. PURPOSE: To provide guidance on the use of equipment in aquatic programs.

4. DESCRIPTION:

4.1 All equipment used in aquatic programs should meet relevant Australian Standards

4.2 Goggles

4.2.1 Goggles should not be lent to program participants as it presents a serious risk of cross infection.

4.2.2 Goggles should not be blacked out as it presents a safety risk. If an exercise is being conducted that requires limited visibility, a blindfold should be used around the goggles so the participant can remove it if necessary underwater and be able to see.

4.3 Buoyancy Aids

4.3.1 Buoyancy aids such as kickboards, pool buoys, noodles and floating mats should be inspected regularly to ensure that they are in a good condition.

4.3.2 Buoyancy aids should be allowed to dry fully overnight before being used again to ensure that they do not retain any stagnant water and risk becoming a source of infection.

4.3.3 A regular program of disinfection may be required to be implemented depending on their amount of usage and their storage conditions.

4.4 Teaching Platforms

4.4.1 Teaching platforms should be inspected regularly to ensure that they are in good condition, are structurally sound and have no sharp edges.

4.4.2 The edges of the teaching platform should be of a contrasting colour to the bottom of the pool to allow students to easily tell where the edge of the platform is.

4.4.3 Teaching platforms should ensure visibility beneath them or manufactured so that people are prevented from swimming underneath them.

4.4.4 Teaching platforms should be made of a material that does not absorb water.

4.4.5 Teaching platforms should be self draining and allowed to dry fully overnight before being used again to ensure that they do not retain any stagnant water and risk becoming a source of infection.

4.4.6 Care should be taken when moving a teaching platform, either within the pool or out of the pool, due to their weight and difficult handling characteristics.

4.5 Inflatables

4.5.1 All aquatic facilities that use in-pool inflatable equipment should conduct a detailed risk management assessment on the use of the inflatable equipment as per GSPO Guideline SU13 Inflatable Play Equipment.

4.5.2 Inflatables should be inspected prior to use for wear and tear, leaks and rough surfaces.

4.5.3 When inflation and deflation are taking place, the area around the inflatable must be kept clear of pedestrian traffic.

4.5.4 Care should be taken when moving an inflatable, either inflated or not, due to their weight and difficult handling characteristics.

4.5.5 Where possible, an inflatable should be allowed to dry fully before being stored for use.

5. REFERENCES / FURTHER INFORMATION

- GSPO Guideline SU13 Inflatable Play Equipment
- Australian Standard AS 1900-2002 Flotation aids for water familiarization and swimming tuition, SAI Global, Sydney

1. TITLE: LOW PATRONAGE POOLS

2. DATE ISSUED: 15 November 2005 ISSUE: 4

3. PURPOSE: To establish guidelines for the supervision of swimming pools that consistently have low patronage.

4. DEFINITION AND SCOPE:

The pools that are covered by this specific guideline should be determined as follows:

4.1 Low Patronage

a) A venue that consistently has fewer than 25 patrons in the water at any one time.

b) Facility operators will be required to make a judgment regarding the number of qualified people required at the facility depending upon a range of factors such as:

- weather
- holidays
- size, number, and layout of pools
- surface reflection
- average attendance
- anticipated attendance
- swimming capabilities
- special needs individuals and groups
- the number and distribution of users
- recreational activities, either programmed or spontaneous
- remoteness/location of facility

c) Facility operators should be cognisant of the total number of patrons within the facility at any one time and who may decide to enter the pool(s) virtually unannounced. This could result in a dramatic increase in the number of patrons in the water, an increase in risk and a need for increased supervision.

4.2 Changes in Patronage

When there is an increase in consistent patronage above 25 persons in the water due to factors such as:

- summer school holidays;
- ongoing hot weather which may be either seasonal or unseasonal;

- school carnivals;
- community festival(s);
- community group(s) picnics or family days;

this Guideline (LP1 Low Patronage Pools) will **not** apply during these periods.

4.3 This Guideline also identifies a number of modifications to other Guidelines in relation to the operation to Low Patronage Pools.
Where there is no modification offered in LP1 all other Guidelines apply.

5. DESCRIPTION:

5.1 Supervision

a) A responsible person should be in attendance at all times that the pool is in use.

b) The responsible person should also be mature and where possible a minimum of 18 years of age.

c) The responsible person should be qualified to a minimum of a current RLSSA Pool Lifeguard Award.

d) Where there is an expectation that the responsible person will provide first aid services, he/she should be qualified with an appropriate and current first aid award.

e) Significant increase in patronage due to special events (e.g. school carnivals) or high temperature may necessitate an increase in supervision. In such cases, the bather supervision standards in Guideline SU1 shall apply.

f) Persons who may be called upon to assist the responsible person should have training in First Aid, CPR and lifesaving techniques.

g) An emergency support system should be in place with an effective means of communication (refer also section 5.7 below) which may include:

- a siren that can be used to call local qualified community members
- a direct telephone link to an appropriate emergency service. E.g. Police.

5.2 It is essential that the following factors be provided at low patronage pools:

a) An emergency plan or procedures that relate to the specific pool or pools

b) An emergency support system should be on display and known to users

c) Information on First Aid, Cardio Pulmonary Resuscitation, and Expired Air Resuscitation should be clearly displayed at the pool

d) Advisory signs relating to appropriate behaviour should be clearly visible to users

5.3 Users should be made familiar with emergency procedures.

5.4 Safety equipment should be available on site, e.g. rope, reach pole, resuscitation pocket

mask. (Refer also GSPO Guidelines in General Operations, Technical Operations and First Aid)

5.5 A First Aid Kit and appropriate oxygen equipment should be available and accessible on site.

5.6 Communication

A means of communicating with emergency support services (back up) should be accessible and be able to be used by the responsible person.

5.7 Chemicals

The responsible person should comply with all health and safety legislation and regulations relating to the handling and use of all relevant chemicals. (Refer also Technical Operations Guidelines)

5.8 Water Quality

The responsible person should maintain the quality of water in accordance with relevant legislation and regulations. (Refer also Guideline TO1)

6. REFERENCES / FURTHER INFORMATION

- Guide to Ontario Public Pools Regulation, 2nd Edition, 2004, Lifesaving Society, Toronto
- Pool Operations Manual, 2nd Edition, 2003, Lifesaving Society, Toronto
- Lifeguarding, 3rd Edition 2001, The Royal Life Saving Society Australia, Mosby, Sydney
- Managing Health and Safety in Swimming Pools, 3rd Edition, 2003, Sport England Publications, Wetherby.

7. PREVIOUS VERSIONS

- Guideline LP1 Low Patronage Pools, Issue 3, July 1996
- Guideline VMS1 Guidelines for Volunteer Managed Pools, Issue 2, January 1994
- Guideline VMS1 Guidelines for Volunteer Managed Pools, Issue 1, August 1991

TITLE **REFERENCES**

DATE ISSUED 1 July 2006 ISSUE: 2

- A Guide to First Aid in the Workplace, NT WorkSafe.
- A Guide to First Aid in the Workplace, WorkCover Tasmania.
- ACT First Aid in the Workplace 2006, ACT WorkCover.
- Code of Practice: (No 18) First Aid in the Workplace, Victorian WorkCover Authority.
- Code of Practice: First Aid Facilities and Services, Commission for Occupational Health and Safety, Western Australia.
- First Aid Code of Practice 2004, Queensland Government Department of Employment and Industrial Relations.
- First Aid in the Workplace, Guide 2001, WorkCover New South Wales.
- Code of Practice for Occupational Health and First Aid in the Workplace, 1991, SafeWork SA.
- Water purification standards for public swimming pools and spa pools. Health Department Victoria 1990.
- Hydrotherapy Services Advisory Committee - Final Report Health Department Victoria. 1986.
- A Comprehensive Guide to becoming a SunSmart Council (Anti-Cancer Council of Victoria).
- Swimming and Lifesaving , (Third Edition) The Royal Life Saving Society Australia, 1995.
- The Surf Lifesaving Training Manual. (28th Edition). Surf Lifesaving Association of Australia.
- Resuscitation and Emergency Care, (Third Edition) The Royal Life Saving Society Australia, 1995.
- Safety in Swimming Pools. Health and Safety Commission and The Sports Council, United Kingdom, 1988.
- Diving in Swimming Pools - Guidance for Swimming Pool Operators. Institute of Baths and Recreation Management (United Kingdom).
- Making Your Recreation Centre Viable. Sport and Recreation Minister's Council. 1990.
- Oxygen, J. Lippmann, The Royal Life Saving Society Australia, 1994.
- Lifeguarding, (Second Edition), The Royal Life Saving Society Australia, 1995.

- WWA Considerations for Operating Safety, World Waterpark Association, 1989.
- On the GUARD II, The YMCA Lifeguard Manual (Second Edition), YMCA of the USA, 1994.
- Lifeguarding in the Waterparks, R. Hunt, 1990.
- Public Pools (381/84), Health Protection and Promotion Act, 1983, ONTARIO CANADA.
- Alert, Lifeguarding Action, The Royal Life Saving Society Canada, 1993.
- Swimming Pool Management Manual, Dr R. Johnson, USA, 1995.
- Public Bathing Place Manual, Swimming Pools, Part 1, Pennsylvania Department of Environmental Resources, USA, 1995.
- Improving the Safety of Waterslides, SAIL, West Glamorgan Institute of Higher Education, Swansea, UK 1990.
- FINA Handbook.
- Australian Guidelines for Recreational Use of Water, National Health and Medical Research Council, Australian Government Publishing Service, Canberra 1990.

TITLE **STATE AND TERRITORY REGULATIONS**

DATE ISSUED 1 November 2007 ISSUE 2

When using the Guidelines for Safe Pool Operation in different State and Territories it is incumbent on the reader to ensure that they are familiar with the relevant regulations, guidelines or legislation that exist in their area.

The following are the key known regulations that pertain to the individual states and territories.

WESTERN AUSTRALIA

- WA Department of Health, Code of Practice for the Design, Construction, Operation, Management and Maintenance of Aquatic Facilities. 2007, Western Australia Department of Health.
- WA Government, Occupational Safety and Health Regulations 1996. 1996, Western Australia Government.
- WA Government, Occupational Safety and Health Act 1984. 1984, Western Australia Government.
- WA Government, Dangerous Goods Safety Management Regulation 2001. 2001, Western Australia Government.
- WA Government, Explosives and Dangerous Goods Act 1961. 1961, Western Australia Government.

QUEENSLAND

- Qld Government, Dangerous Goods Safety Management Act 2001. 2001, Queensland Government.
- Qld Government, Workplace Health and Safety Regulation 1997. 2007, Queensland Government.
- Qld Department of Health, Swimming and Spa Pool Water Quality and Operational Guidelines.
- 2004, Queensland Department of Health.
- Qld Government, Hazardous Substances Code of Practice 2003. 2003, Queensland Government.
- Qld Government, Dangerous Goods Safety Management Regulation 2001. 2001, Queensland Government.
- Qld Government, Workplace Health and Safety Act 1995. 1995, Queensland Government.

TASMANIA

- Tas Government, Dangerous Goods (General) Regulations 1998. 1998, Tasmania Government.
- Tas Government, Workplace Health and Safety Regulations 1998. 1998, Tasmania

Government.

- Tas Government, Workplace Health and Safety Act 1995. 1995, Tasmania Government.
- Department of Health and Human Services, Guidelines for Health and Safety in Public Places. 1997, Department of Health and Human Services.

NEW SOUTH WALES

- NSW Department of Local Government, Practice Note No. 15 Water Safety. 2005, Department of Local Government.
- NSW Government, Occupational Health and Safety Regulation 2001. 2001, New South Wales Government.
- NSW Department of Health, Public Swimming Pool and Spa Pool Guidelines. 1996, Department of Health New South Wales.
- NSW WorkCover, Control of Workplace Hazardous Substance Code of Practice 2006. 2006, WorkCover NSW.
- NSW Government, Occupational Health and Safety Act 2000. 2000, New South Wales Government.
- NSW Government, Occupational Health and Safety Amendment (Dangerous Goods) Act 2003. 2003, New South Wales Government.
- NSW Government, Occupational Health and Safety Amendment (Dangerous Goods) Regulation 2005. 2005, New South Wales Government.

NORTHERN TERRITORY

- NT Department of Health and Aged Care, Draft Public Health Guidelines for Aquatic Facilities, Northern Territory Government.
- NT Government, Work Health (Occupational Health and Safety) Regulations 2006. 2006, Northern Territory Government.
- NT Government, Work Health Act 2007. 2007, Northern Territory Government.
- NT Government, Dangerous Goods Act. 2006, Northern Territory Government.
- NT Government, Dangerous Goods Regulations. 2007, Northern Territory Government.

VICTORIA

- Vic Government, Health (Infectious Diseases) Regulations 2001. 2001, Victoria Government.
- Vic Government, Dangerous Goods (Storage and Handling) Regulations 2000. 2007, Victoria Government.
- Vic Government, Occupational Health and Safety (Manual Handling) Regulations 1999. 1999, Victoria Government.
- Vic Government, Occupational Health and Safety Act 2004. 2004, Victoria Government.
- Vic Government, Dangerous Goods Act 1985. 1985, Victoria Government.
- Vic Government, Occupational Health and Safety (Confined Spaces) Regulations 1996. 1996, Victoria Government.

SOUTH AUSTRALIA

- SA Government, Occupational Health, Safety and Welfare Regulations 1995. 1995, South Australia Government.
- SA Government, Occupational Health, Safety and Welfare Act 1986. 1986, South Australia Government.
- SA Government, Public and Environmental Health Regulations 1991. 1991, South Australia Government.
- SA Government, Dangerous Substances Regulation 2002. 2002, South Australia Government.
- SA Government, Storage of Chemicals: Chemical Use. 2001, South Australia Government.

AUSTRALIAN CAPITAL TERRITORY

- ACT Government, Dangerous Substances (General) Regulation 2004. 2004, ACT Parliamentary Counsel.
- Australian Capital Territory Government, Occupational Health and Safety Act 1989. 1989, ACT Parliamentary Counsel.
- ACT Department of Health and Aged Care, A Code of Practice to Minimise the Public Health Risks from Swimming/Spa Pools, ACT Department of Health and Community Care.
- Australia Capital Territory Government, Dangerous Substances Act 2004. 2004, ACT Parliamentary Counsel.
- Australian Capital Territory Government, Occupational Health and Safety Regulation 1991. 1991, ACT Parliamentary Counsel.

NATIONAL

- National Occupational Health and Safety Commission, National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC:1005(1994)]. 1994, National Occupational Health and Safety Council.
- National Occupational Health and Safety Commission, National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC:2007(1994)]. 1994, Australian Government Publishing Service

TITLE **BIBLIOGRAPHY OF AUSTRALIAN STANDARDS**

DATE ISSUED 1 July 1996 ISSUE: 1

AS 1319	Symbolic Safety Signs
AS 1339	Code of Practice for manual handling of materials
AS 1428.1	Design for Access and Mobility - Buildings
AS 1470	Health and Safety at Work - Principles and Practices
AS 1499	Personal Flotation Devices - Type 2
AS 1512	Personal Flotation Devices - Type 1
AS 1680	Interior Lighting
AS 1885.1	Describing and reporting occupational injuries and disease
AS 1900	Flotation Toys and Swimming Aids for Children
AS 1926	Swimming Pool Safety
AS 1926.1	Fencing for Swimming Pools
AS 1926.2	Location of Fencing for Private Swimming Pools
AS 1926.3	Water Recirculation and Filtration Systems
AS 2020	Safety Covers for private swimming pools and wading pools (for the protection of Children 5 years of age and under)
AS 2259	General requirements for buoyancy aids
AS 2260	Personal Flotation Devices - Type 3
AS 2261	Rescue Buoys
AS/NZS 2293.2	Inspection and Maintenance (Emergency evacuation lighting in buildings)
AS 2342	Development, testing and implementation of information and safety symbols and symbolic signs
AS 2369	Materials for solar collectors for swimming pool heating
AS 2416	Design and application of water safety signs
AS 2488	Resuscitators, intended for use with humans
AS 2508	Safe storage and handling information cards for hazardous materials

AS 2560.2.5	Guide to Sports Lighting Specific recommendations - Swimming Pools
AS 2569.1	Safe manual lifting and moving of patients
AS 2569.2	Selection and use of mechanical aids for patient lifting and moving
AS 2610.1	Public Spas
AS 2610.2	Private Spas
AS 2675	Portable First Aid Kits for use by consumers
AS 2783	Use of reinforced concrete for small swimming pools (<15m in length and >100m2)
AS 2818	Guide to Swimming Pool Safety (Private Swimming Pools)
AS 2820	Gate units for private swimming pools
AS 2899.2	Water Safety Signs
AS 2927	The Storage Handling of Liquified Chlorine Gas
AS 3000	Electrical Installations - Buildings, Structures and Premises
AS 3136	Approval and test specification - Electrical Equipment for spa-baths and spa and swimming pools
AS 3550.7	Construction and use of the Secchi Disc (Water Clarity)
AS 3581	Mechanical Aids for patient lifting and moving - Safety Requirements
AS 3633	Private Swimming Pools - Water Quality
AS 3634	Solar Heating Systems for Swimming Pools
AS 3745	Emergency Control organisation and procedures for buildings
AS 3790	Storage and Handling of Corrosive Substances
AS 3979	Hydrotherapy Pools
AS 4031	Non-reusable containers for the collection of sharp medical items used in health care areas
AS/NZS 4233	High pressure water setting systems - safe operation and maintenance
AS 4259	Ancillary devices for Expired Air Resuscitation
AS/NZS 4261	Reusable containers for the collection of sharp items used in human and animal medical applications
AS 4332	Storage and Handling of Gases in Cylinders

PROFESSIONAL PACKAGES

PP 19 Boilers and Pressure Vessels

PP 45 Swimming Pools and Spas

PP 38 Storage of Dangerous Goods

PP 47 Occupational Safety

Note: Reference for the above Standards - Catalogue of Australian Standards and Other Products, 1996.

TITLE **RLSSA POOL LIFEGUARD AWARD**

DATE ISSUED 1 Nov 2007 ISSUE: 2

Recognised as an Accredited Vocational Training Course, the RLSSA Pool Lifeguard Course aims to develop acceptable standards of knowledge, judgement, skills and physical abilities for the supervision of people in swimming pools.

MINIMUM AGE 16 years

PREREQUISITE RLSSA Bronze Medallion, Senior First Aid

TARGET DURATION OF COURSE 22 Hours

CURRENCY OF QUALIFICATIONS Twelve (12) months.

TOPICS

Module One **AQUATICS INDUSTRY OVERVIEW**

Aim: To understand the aquatics industry, training and career pathways. Provides an introduction to lifeguarding, the role of Royal Life Saving Society and the Guidelines for Safe Pool Operation.

Module Two **SUPERVISION**

Aim: To understand the role and legal responsibilities of a Lifeguard. To provide skills in the supervision of an aquatic environment and leisure facilities.

Module Three **LIFEGUARD MANAGEMENT & PUBLIC RELATIONS**

Aim: To provide an overview of facility standard operating procedures and lifeguard duties along with skills in public relations, conflict resolution and the opportunities of public education in an aquatic centre.

Module Four **EMERGENCY RESPONSE**

Aim: To cultivate a heightened awareness of patron activity and become skilled in recognising people in difficulty and to develop the confidence, skills and knowledge to intervene in an emergency. Utilise specialised rescue and emergency care equipment in the management of an emergency.

Module Five **RISK MANAGEMENT**

Aim: To develop the maturity, judgement, skill, knowledge enabling the lifeguard to identify, assess, control and eliminate risks. Develop skills in the investigation and reporting of incidents and accidents.

Module Six **POOL OPERATIONS**

Aim: To gain the basic information on swimming pool operation and maintenance necessary for Lifeguards to enhance patron comfort and safety and to understand how their facility operates.

TITLE **SWIMMING POOL WATER TREATMENT CHEMICALS**

DATE ISSUED 1 July 1996 ISSUE: 1

The following list of chemicals describes those chemicals more likely to be found in use in the treatment of swimming pool water in Australia.

Ozone: An unstable, blue oxidising gas manufactured on site and removed from the water before returning to the pool.

Sodium Hypochlorite: A Class 8 corrosive liquid, yellow-green in colour, used to sanitise water and to oxidise germs.

Chlorine Gas: A Class 2.3 poisonous gas and a Class 5.1 oxidising agent. It is a greenish yellow gas/amber liquid with a pungent and irritating odour. It is a very good sanitiser with no residue and needs extra caution.

Bromine (Tablets/Liquid): A sanitiser, usually used in warmer water.

Carbon Dioxide: A Class 2.2 dangerous gas which when introduced into pool water forms carbonic acid used to lower pH.

Cyanuric Acid (Stabiliser): Only used in outdoor swimming pools to reduce the breakdown of hypochlorous acid by sunlight.

Aluminium Sulphate (Rock Alum): Used to promote flocculation or the drawing of undissolved solids together thereby aiding the filtration process.

Algaecide: Has been used in outdoor swimming pools during periods of closure (winter) to restrict the growth of algae. Not recommended.

Sodium Thiosulphate: Used to neutralise chlorine when a pool has been overdosed.

Calcium Hypochlorite / Calcium Chloride / Calcium Sulphate: A Class 5.1 dangerous chemical, generally used to sanitise and increase calcium hardness.

Soda Ash (Sodium Carbonate): A strong alkali powder or liquid which is used to increase pH.

Sodium Bicarbonate (Buffer): Is a weak alkali powder which is used to raise total alkalinity and pH.

Diatomaceous Earth Powder: Used as a filter media.

Hydrochloric Acid (Muriatic Acid): A dangerous acidic liquid used to rapidly reduce pH.

Sodium Bisulphate (Dry Acid): Is a dry acidic powder used to rapidly reduce pH.

TITLE **DEFINITIONS**

DATE ISSUED 1 July 1996 ISSUE:1

AUSTRALIAN RESESCITATION COUNCIL (ARC)

AUSTSWIM: The Australian Council for the Teaching of Swimming and Water Safety

Bathing: Generally 'public bathing' refers to swimming, moving slowly, floating or playing in a body of water (not private or home bath)

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

Cardio Pulmonary Resuscitation (CPR)

Competency: A pattern of related behaviour which is associated with effective or outstanding performance of a task or job.

Critical Incident Stress (CIS): Sometimes referred to as Post-Trauma Stress and is an emotional, physical or mental reaction to a traumatic incident.

Current: The period during which a personal performance qualification is valid, Eg: RLSSA Pool Lifeguard Award is current for 12 months.

Debrief: A review of an occurrence or activity and of its components.

Dump Shower: An item of equipment from which is released large volumes of fresh water, the purpose of which is to wash contaminants of a persons clothing or body.

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 (eg: fire, bomb threat, chemical spill).

Expired Air Resuscitation (EAR): Use of one person's expired air to inflate another's lungs by blowing into the nose or mouth.

External Cardiac Compression (ECC): Compression of a person's heart by applying external pressure on the person's sternum.

Federation Internationale Natation Association (FINA): The world-wide swimming sports organisation.

General Purpose Outlet (GPO): A power outlet to which an item of equipment operates on electricity is to be connected to allow correct operation.

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

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

Lazy River: A channel of moving water through which a bather can walk or float in water travelling at less than 1.5m per second.

Major Incident: An incident which is classed as life threatening.

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

Multi Facility: A Centre which houses a number of facilities such as multiple pools, sauna, steam room, gymnasium, staff and meeting rooms, spa pools, kiosks and crèches etc.

Normal Operation Procedure: A procedure normally carried out on a day-to-day basis to ensure the smooth, safe, effective and efficient operation of a facility.

Open Water: Generally refers to lakes, bays, oceans, gulfs and any large open expanse of water.

Periodic: occurring at regular intervals.

Personal Protective Equipment (PPE): Equipment used, including clothing worn by persons requiring protection from a potential occupational hazard.

Recreational Swimming: Swimming and bathing for fun and recreation not necessarily in a defined area (eg: lane) or direction.

Regular: A normal occurrence.

Risk Assessment Factor: A measure of the quantity and potential risk of dangerous goods stored on premises.

Shallow: 'Not deep: having little depth'. Anecdotal evidence suggests that humans perceive a water level below their individual waist height as shallow water.

Training: Education, instruction and practice through which one is able to demonstrate competency.

Turbidity: The state of quality of water. Unclear water.

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

TITLE **DEFINITIONS**

DATE ISSUED 1 July 1996 ISSUE: 1

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Turbidity: The state of quality of water. Unclear water.

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

TITLE: **RISK MANAGEMENT IN AQUATIC AND LEISURE CENTRES**

DATE ISSUED: 1 April 2006 ISSUE: 1

ABSTRACT **Risk management is the process of identifying, assessing and controlling risks to people, to an organisation, or to an asset. Formalized 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 and leisure centre, but in particular is required to 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, industry guidelines such as the Guidelines for Safe Pool Operation, Australian Standards or even to the criteria competitors 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.

Analysis of the risk is essentially deciding at what level of risk the risks identified in the previous step are. 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 minimize 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.

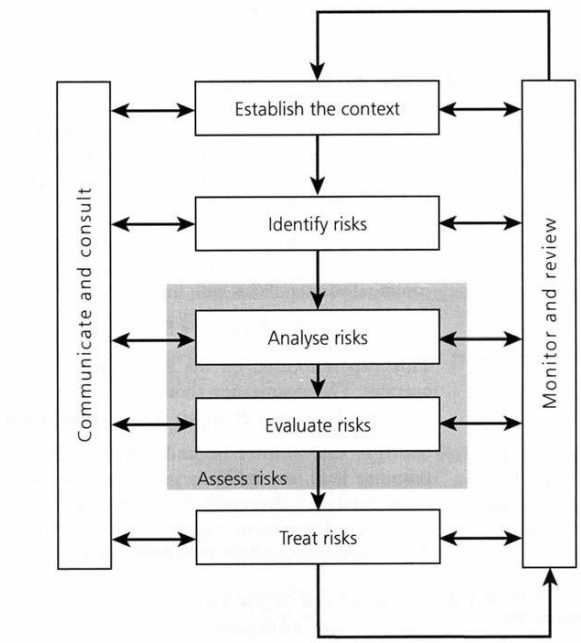

Figure 1. Risk Management Process Flow Chart from AS/NZS 4360

Risk management is a vital process for both the aquatic and leisure industry and its clientele. The Australian Standard AS/NZS 4360:2004 Risk Management 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-authorised 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 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. If the consequences have been rated as “minor”, it will be rated as Category 4 for Consequence. By cross referencing Column B and Row 4 in Table 3, you will get a risk assessment of 14, which falls into the medium risk level.

Table 3. Qualitative Risk Assessment Matrix.

LIKELIHOOD

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

A SCORE OF 1 – 6 = HIGH RISK: Immediate correction required. Consider discontinuing.

A SCORE OF 7 – 15 = MEDIUM RISK: Attention needed, correction required.

A SCORE OF 16 – 25 = LOW RISK: Perhaps acceptable as is.

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. 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 - H

Table 5. Hierarchy of Controls

METHOD	HOW TO DO IT	EXAMPLES
Elimination	Eliminate the hazard from the workplace altogether. NOTE - 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.	- Dispose of unwanted chemicals. - Eliminate hazardous plant or processes. - Repair damaged equipment promptly.
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.	- Reduce box size wherever possible, to reduce weight. - • Replace a hazardous chemical with a less dangerous one.
Isolation	Isolate the problem from staff – this is often done by the use of separate purpose-built rooms, barricades, or sound barriers, etc.	- Isolate and store chemicals properly. - Put noisy machinery in soundproofed rooms. - Use lock-out tags.
Engineering controls	Re-designing equipment, work processes or tools to reduce or eliminate the risk.	- Ensure proper machine guarding is in place. • Use anti-glare screens on computer VDU's. - Change bench heights to reduce bending.

Administrative controls	Provide appropriate training, written work procedures, adequate supervision, signage, maintenance of plant and equipment, or limitation of exposure time.	- Give appropriate training to all staff. - Provide adequate warning signs. - Maintain plant and equipment properly.
Personal protective equipment (PPE)	Provide adequate personal protective equipment. NOTE - this is the least preferable method of dealing with a hazard – it should only be adopted when all other methods have proven unsuitable.	- Provide earplugs for staff in noisy areas. - Make sure eye protection is worn when staff are working with hazardous chemicals.

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 Risk management (available from Standards Australia – www.standards.com.au)

Name

Position

Organisation

Address

Postcode

Telephone ( ) Facsimile ( )

Date / / Guideline Number

Date Issued Issue Number

Title

Comment

Please attach additional pages if necessary

Send to:
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RLSSA – National Office
PO Box 558
Broadway NSW 2007
Facsimile (02) 8217 3199

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