

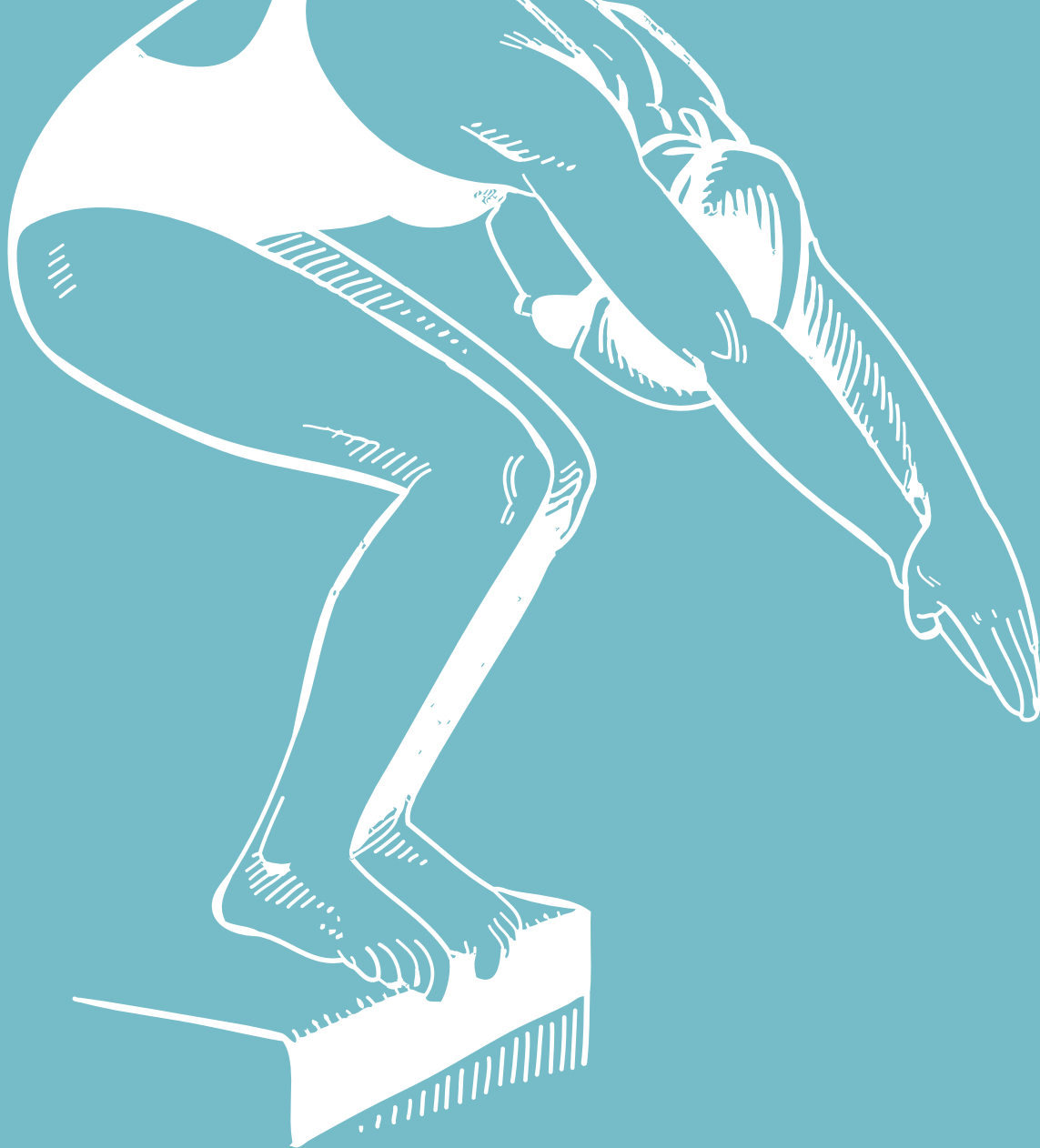
IMPLEMENTATION GUIDE FOR  
AQUATIC FACILITY MANAGERS

## AQUATIC GUIDELINES

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# SAFE WATER ENTRY FOR COMPETITIONS – COMPETITIVE DIVE STARTS





#### REFERENCE GROUP

- David Power - NSW Department of Education and Training – Sport Unit
- Ross Morrison - NSW Department of Education and Training – Sport Unit
- Gary Penfold - Aquatic and Recreation Institute / Warringah Council
- Michael Ilinsky - Royal Life Saving
- Steve Eccleston - Royal Life Saving
- Melissa Rickwood - AUSTSWIM
- Selwyn Brown - NSW Department of Education and Training – St Clair High School
- Jenny Blitvich - University of Ballarat (Diving Expert)

#### FURTHER INFORMATION

Royal Life Saving NSW, PO Box 8307, BAULKHAM HILLS  
BC NSW 2153 – telephone (02) 9634 3700

All support documents can be found at  
[www.royalnsw.com.au](http://www.royalnsw.com.au)

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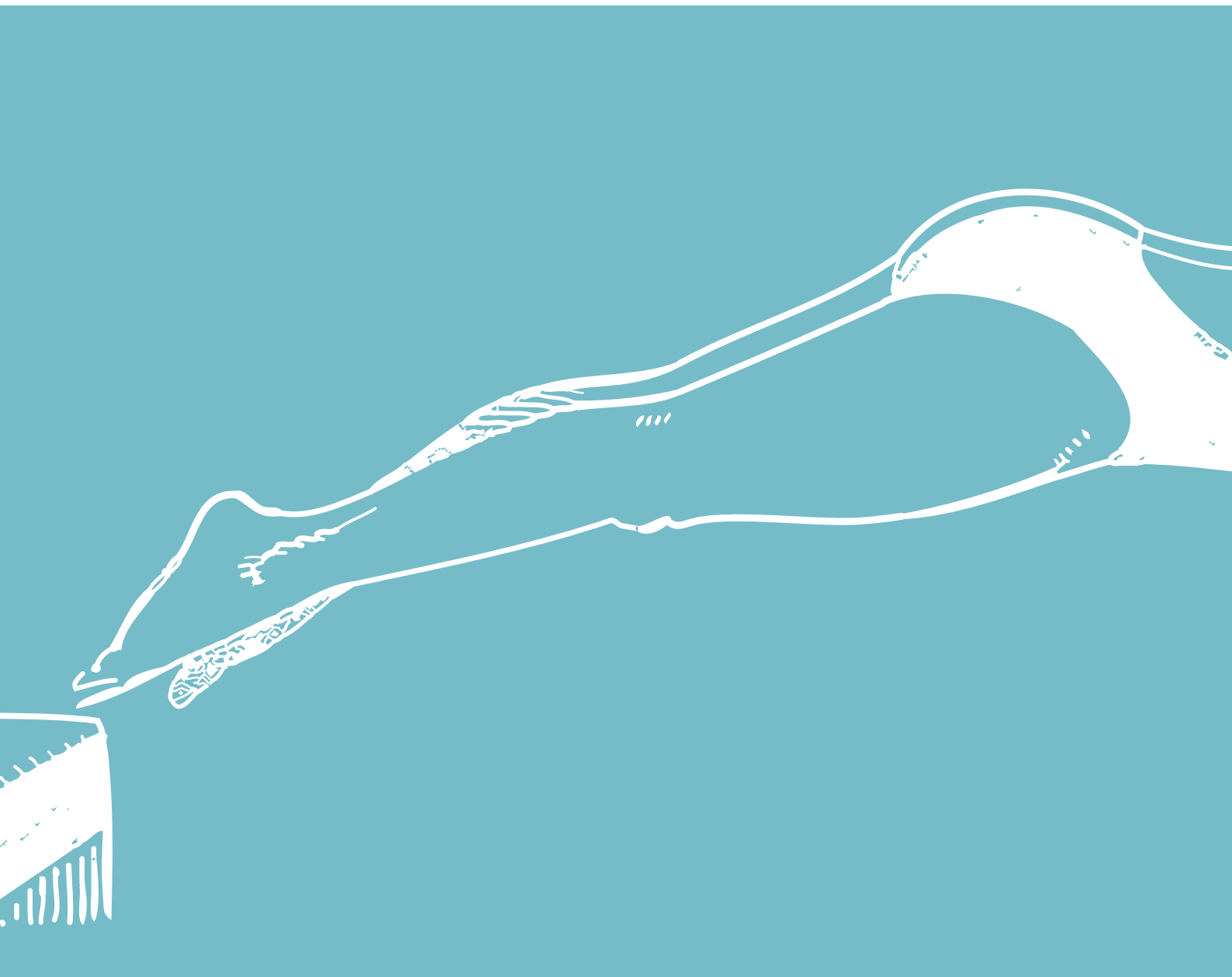
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There is a significant body of evidence to suggest that shallow water diving can lead to a range of injuries that include head injuries (broken teeth, scalp injuries and facial fractures) to the more significant spinal cord injury.



SECTION : 01

INTRODUCTION

From 2008 all NSW Department of Education and Training Schools will seek to obtain from Aquatic Facilities a recommendation on whether dive entries are permissible for the purpose of swimming carnivals. This document will assist Aquatic Facilities implement newly developed School Guidelines through the provision of templates and support documents.

For further information or assistance please do not hesitate to contact your nearest Royal Life Saving Office.

#### BACKGROUND

There is a significant body of evidence to suggest that shallow water diving can lead to a range of injuries that include head injuries (broken teeth, scalp injuries and facial fractures) to the more significant spinal cord injury. Spinal cord injury is sudden and unexpected. It can be devastating and costly in human and social terms.

Each year in Australia, about 300 – 400 new incident cases occur. Water related events accounted for 10% (n=25) of persisting spinal cord injury cases reported during 2003-04. Ninety six percent (n=23) of water related spinal cord injury reported had injury to the cervical spinal segments, with 25% sustaining complete injury to the cord after diving into bodies of water without being aware of the depth.

[Aquatic Guidelines – Safe Water Entry for Competitions – Competitive Dive Starts](#) has been developed in response to the Royal Life Saving Society Australia – Guidelines for Safe Pool Operation SU22 – Safe Water Entry for Competitions. Royal Life Saving Society Australia produced these Guidelines in 2006 as a result of a number of head and spinal injuries that had occurred during scheduled activities such as swimming carnivals and recreational swimming.

A 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.

Diving is a common entry method for swimming carnival events. Diving into shallow water is a complex skill and is generally taught through structured education and training programs. Many competitors participating in swimming carnivals across NSW have not had the opportunity to undertake a progressive education program on diving.

[Aquatic Guidelines – Safe Water Entry for Competitions – Competitive Dive Starts](#) provides guidance to Aquatic Facility personnel to ensure Principals and Swimming Carnival Coordinators receive appropriate information on safe water entry for competitors during competition.

Specifically the Guidelines will provide aquatic centres with information (documentation and templates) and a risk management approach to establish what type of water entry is appropriate at their facility with reference to competitive dive starts.

## STEPS TO IMPLEMENT AQUATIC GUIDELINES-SAFE WATER ENTRY FOR COMPETITORS

Aquatic Facilities are responsible for providing standard information (as detailed in Appendix 1) to NSW Department of Education and Training Schools who wish to utilise the facility for carnival purposes.

### STEP 1.

#### COMPLETE THE SHALLOW WATER DIVING INFORMATION & RISK ASSESSMENT

Aquatic Facilities will need to complete the [Shallow Water Diving Information and Risk Assessment](#) form and have it available for distribution to Schools upon request.

The Shallow Water Diving Information and Risk Assessment form provides Principals and Carnival Coordinators with the following information:

**PART 1:** The [Water Depth](#) (in metres and centimetres) of the competition pool from both ends where entry may occur and a height (millimetres) measurement from water level to concourse or starting block. This information then needs to be applied to a Diving Depth Matrix by the Aquatic Facility operator (Appendix 3) to provide a “suggested entry” statement for Principals and Carnival Coordinators. The recommended diving depths outlined in the Diving Depth Matrix are based on the Royal Life Saving Australia Guideline SU 22 Safe Water Entry for Competitions (Appendix 5).

The suggested entry statement will either identify:

1. [An in-water start recommendation](#) (based on the depth of the competition pool and concourse height the recommendation is to commence events in the water – no diving permissible).
2. [Competitive dive starts permitted](#) (based on the depth of the competition pool and concourse height a competitive dive start is permissible).

Principals and Carnival Coordinators should then utilise the information in the Shallow Water Diving Information and Risk Assessment form and confirm the type of entry suitable for the swimming carnival.

Principals and Carnival Coordinators can be reminded that “in-water” starts are a genuine option for carnivals with novice-swimmers. In-water starts significantly reduce the opportunity for a diving or spinal related injury.

**PART 2: Risk Identification, Assessment and Control Procedures** as compiled by the host Aquatic Facility. This section outlines the hazard description, current controls, likelihood details and consequence details together with a level of risk for the purpose of shallow water diving. This level of risk will be determined by utilising the Risk Management Matrix at Appendix 4.

This section will also identify key responsible people from the host Aquatic Facility and any actions that may be required.

#### SUPPORT DOCUMENTS:

- Appendix 1: Shallow Water Diving Information and Risk Assessment
- Appendix 2: Shallow Water Diving Information and Risk Assessment – SAMPLE from Warringah Aquatic Centre
- Appendix 3: Water Depth Matrix
- Appendix 4: Risk Management Matrix
- Appendix 5: Royal Life Saving “Guidelines for Safe Pool Operation” SU22 Safe Water Entry for Competitions – Competitive Dive Start.

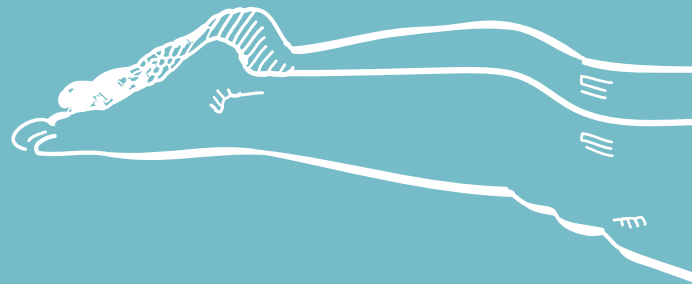
The information provided to Schools (Appendix 1) should be considered a minimum. Any additional policies or Guidelines should also be supplied to schools in accordance with standard operating procedures for each individual facility.

For more information on [Royal Life Saving Guidelines for Safe Pool Operation](#) please contact:

Ph: 02 9634 3700

Fx: 02 9634 8529

Email: [nsw@royalnsw.com.au](mailto:nsw@royalnsw.com.au)







## SECTION : 02

### SUPPORT DOCUMENTS

- Appendix 1:** Shallow Water Diving Information and Risk Assessment
- Appendix 2:** Shallow Water Diving Information and Risk Assessment – COMPLETED SAMPLE
- Appendix 3:** Water Depth Matrix
- Appendix 4:** Risk Management Matrix
- Appendix 5:** Royal Life Saving “Guideline for Safe Pool Operation” SU22 Safe Water Entry for Competitions – Competitive Dive Start.

## APPENDIX 1 – SHALLOW WATER DIVING INFORMATION & RISK ASSESSMENT

### ATTENTION: Principal and Carnival Coordinator

Please ensure you read and understand all PARTS to this document prior to signing and agreeing to terms and conditions.

### PART 1 – WATER DEPTH

After consultation with Royal Life Saving NSW, the Aquatic and Recreation Institute and the NSW Department of Education and Training (DET) it has been deemed important that ..... provide you with information on shallow water diving. This is particularly pertinent to relay events or other activities where diving in shallow water may be a scheduled carnival event or activity.

CARNIVAL POOL –			
DEEP END DEPTH (or location)	Metres	SHALLOW END DEPTH (or location)	Metres
Concourse / Starting Block height above water	mm	Concourse / Starting Block height above water	mm
OTHER INFORMATION			

### SUGGESTED SAFE WATER ENTRY TECHNIQUE

Based on the Royal Life Saving Guidelines for Safe Pool Operation Guideline SU22 the following entry is suggested.

DEEP END (or location)	SHALLOW END(or location)
OTHER INFORMATION If you undertake Competitive Dive starts please ensure appropriate induction, training and competitor announcements are undertaken in accordance with DET requirements.	

### PART 2 - RISK IDENTIFICATION / ASSESSMENT / CONTROL

DATE	LOCATION
<b>IDENTIFICATION</b>	
ASSESSORS	
WORK AREA	
HAZARD DESCRIPTION	

<b>ASSESSMENT</b>	
CURRENT CONTROLS	
LIKELIHOOD DETAILS	
CONSEQUENCE DETAILS	
LEVEL OF RISK	

PROPOSED CONTROLS	BY DATE
ELIMINATION	
SUBSTITUTION	
ENGINEERING	
ADMINISTRATION	
LIKELIHOOD DETAILS (After proposed controls implementation)	
CONSEQUENCE DETAILS (After proposed controls implementation)	
LEVEL OF RISK	

### APPROVAL TO IMPLEMENT CONTROLS & RESPONSIBLE PERSON

RESPONSIBLE PERSON	NAME	BY DATE	STATUS

ADDITIONAL ACTIONS TO BE TAKEN

## APPENDIX 2 – SHALLOW WATER DIVING INFORMATION & RISK ASSESSMENT (SAMPLE)

### ATTENTION: Principal and Aquatic Carnival Coordinator

Please ensure you read and understand all PARTS to this document prior to signing and agreeing to terms and conditions.

#### PART 1 – WATER DEPTH

After consultation with Royal Life Saving NSW, the Aquatic and Recreation Institute and the NSW Department of Education and Training (DET) it has been deemed important that **WARINGAH AQUATIC CENTRE** provide you with information on shallow water diving. This is particularly pertinent to relay events or other activities where diving in shallow water may be a scheduled carnival event or activity.

CARNIVAL POOL –			
DEEP END DEPTH (or location)	1.8 Metres	SHALLOW END DEPTH (or location)	1.01 Metres
Concourse / Starting Block height above water	750 mm	Concourse / Starting Block height above water	300 mm
OTHER INFORMATION	If boom is to be utilised for entry please consult with Lifeguard staff		

#### SUGGESTED SAFE WATER ENTRY TECHNIQUE

Based on the Royal Life Saving Guidelines for Safe Pool Operation Guideline SU22 the following entry is suggested.

DEEP END (or location)	Copetitive Dive Start Permissible	SHALLOW END(or location)	Copetitive Dive Start Permissible
OTHER INFORMATION If you undertake Competitive Dive starts please ensure appropriate induction, training and competitor announcements are undertaken in accordance with DET requirements.			

#### PART 2 - RISK IDENTIFICATION / ASSESSMENT / CONTROL

DATE 12th May 2007	LOCATION 25 metre Carnival Pool (Shallow end)		
<b>IDENTIFICATION</b>			
ASSESSORS	(INSERT KEY STAFF UNDERTAKING RISK ASSESSMENT)		
WORK AREA	Shallow end		
HAZARD DESCRIPTION	Risk of steep dive into shallow end of pool causing possible head/neck injury		
<b>ASSESSMENT</b>			
CURRENT CONTROLS	Non-elite swimmers require clearance from Principal		
LIKELIHOOD DETAILS	Very likely – could happen at anytime		
CONSEQUENCE DETAILS	Permanent disability or ill health (possible death)		
	LEVEL OF RISK	1	
<b>PROPOSED CONTROLS</b>			
ELIMINATION			
SUBSTITUTION			
ENGINEERING			
ADMINISTRATION	Portable dive blocks are not offered for carnivals at shallow end. Basic carnivals are a deep end start	1st July 2007	
LIKELIHOOD DETAILS (After proposed controls implementation)	Very unlikely – could happen but probably never will		
CONSEQUENCE DETAILS (After proposed controls implementation)	Death or permanent disability or ill health		
	LEVEL OF RISK	3	

#### APPROVAL TO IMPLEMENT CONTROLS & RESPONSIBLE PERSON

RESPONSIBLE PERSON	NAME	BY DATE	STATUS
MANAGER/TEAM LEADER	(NAME OF MANAGER)	(INSERT DATE)	IMPLEMENTED

ADDITIONAL ACTIONS TO BE TAKEN D2 2.1 Terms & Conditions – shallow end pool depth is 1 metre-signage indicates no diving permitted. Hirers requesting the use of shallow end start to complete own risk assessment. D2 2.2 Inclusion of RLSSA “Guidelines for Safe Pool Operation” in terms and conditions.

## APPENDIX 3 – DEPTH MATRIX

The following information is provided for schools who undertake their own water depth assessment. Please ensure you add depth details to Appendix 1 with a corresponding “SUGGESTED SAFE WATER ENTRY TECHNIQUE”.

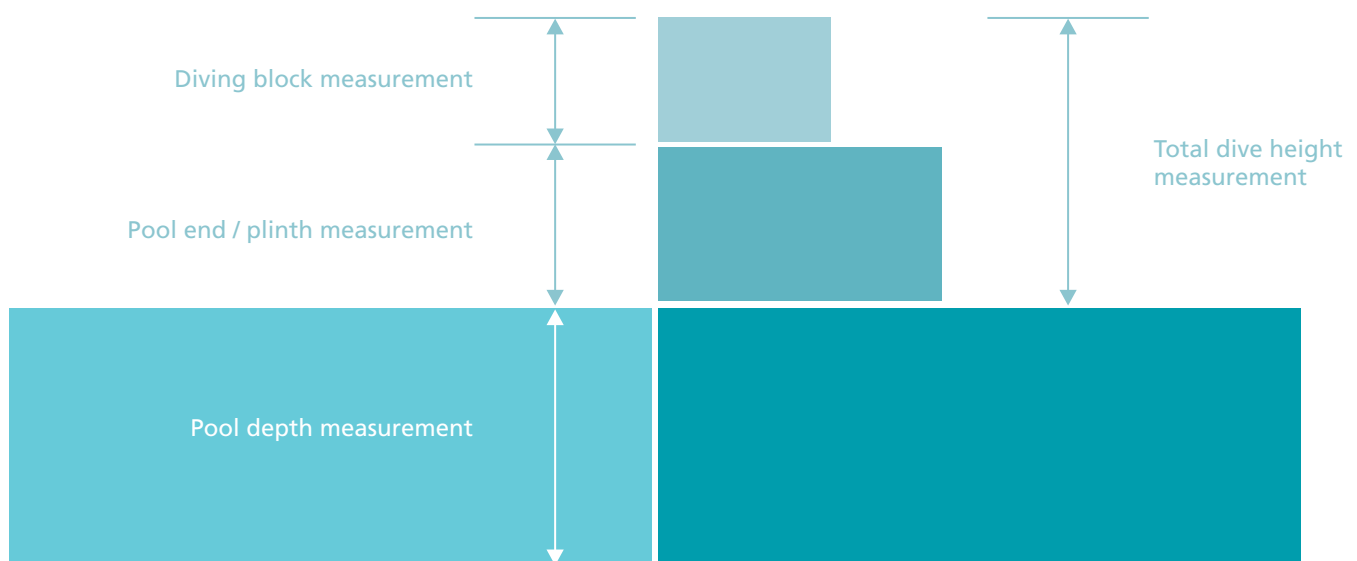
### DIVING DEPTH MATRIX

Water depths for starts for competition swimming and training (for trained competitors)

DEPTH	COMMENT	ENTRY
Less than 900mm	Dive starts should not be permitted	All events should be commenced in the water
900 – 1000mm	Concourse level to a maximum height above water of 200mm	Competitive dive starts may be permitted
	If concourse level greater than 200mm	In-water start
1000 – 1200mm	Concourse level to a maximum height above water of 400mm	Competitive dive starts may be permitted
	If concourse level greater than 400mm	In-water start
1200mm or greater	Maximum height of 750mm	Competitive dive starts may be permitted
	If greater then 750mm	In-water start

Please ensure you read RLSSA GSPO SU22 in its entirety prior to providing information to schools.

### MEASUREMENT DIAGRAM



## APPENDIX 4 - RISK MANAGEMENT MATRIX

The following information is provided for schools who undertake their own risk assessment. Please ensure you add appropriate details to Appendix 1 PART 2 RISK IDENTIFICATION / ASSESSMENT / CONTROL

A matrix can be used to give each individual risk a numerical rating, allowing the risks to be categorised according to severity. The first step is to determine the level of consequence (harm) should something happen. The second step is to determine how likely it is for something to happen.

### CONSEQUENCE

Classify the category of the consequence using the following table: Table 1.

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

### LIKELIHOOD

Estimate how likely the consequence is to happen as a result of exposure to the hazard using the following table: Table 2.

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

A risk score can be determined by cross referencing the potential consequence with the likelihood of the consequence being realised in the following table: Table 3.

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

The risk score can provide a ranking that will give an indication of the priority and the qualitative level of risk and the need to take remedial action.

**HIGH** – immediate correction required. Consider discontinuing

**MEDIUM** – attention needed, correction required

**LOW** – perhaps acceptable as is

The level of acceptable risk varies with all hazards, the ways and available means of reducing risk and the skills and competencies of persons managing the risks.

## APPENDIX 5 – GUIDELINES FOR SAFE POOL OPERATION SU22

### 1. TITLE: SAFE WATER ENTRY FOR COMPETITIONS - COMPETITIVE DIVE STARTS

2. DATE ISSUED: 1st April 2006

ISSUE: 2

3. PURPOSE: To provide guidance on safe 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 competency 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 Safe Water Entry (see also Guideline PR 9 in Program section)

- (a) All persons who wish to participate in swimming or similiar (e.g. 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 (e.g. AUSTSWIM) should assess competency.
- (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

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

