

TECHNICAL OFFICIALS
TRAINING PROGRAM
UNIT 11



AOE
OPERATOR

LEARNER GUIDE

CONTENTS

P3: About this Learner Guide

P7: Unit 11: Automatic Officiating Equipment (AOE) Operator

P15: Assessment Task

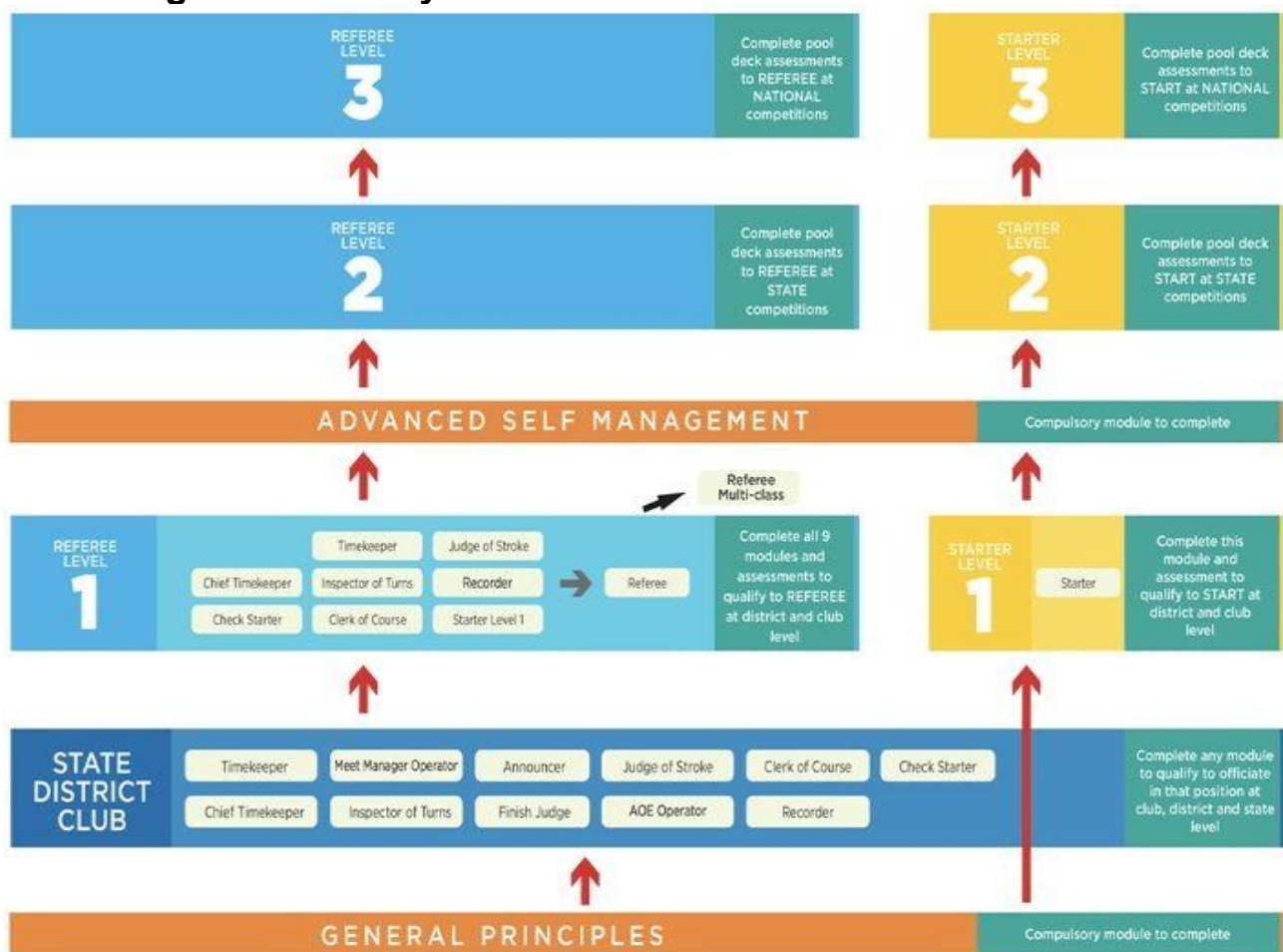
P16: Assessment Tool

ABOUT THIS LEARNER GUIDE

This Learner Guide has been developed by Swimming Australia Ltd (SA) to support candidates undertaking, **Unit 11 – Automatic Officiating Equipment (AOE) Operator** within the **SA National Officiating Accreditation Program**. SA and the State Technical Committees have worked in conjunction in the formulation this document.

Swimming Australia has designed the Technical Officials Training Program on a competency based training platform.

Officiating Pool Pathway



WHAT IS A COMPETENCY?

A competency can be defined as the application of skills and knowledge to an agreed standard.

Competency relates to what a person can do.

Competency standards specify the level of knowledge and skills required, and the application of that knowledge and skills for effective performance.

WHAT IS COMPETENCY BASED ASSESSMENT?

Assessment is the process of collecting evidence and making judgements about whether competency has been achieved. Assessment needs to be based on established criteria. These criteria are reflected in the questions and activities set out in this Learner Guide.

HOW DO I USE THIS LEARNER GUIDE?

This Learner Guide provides you with the information and activities that will enable you to achieve competencies related to this unit of work.

You can develop competency in this unit through a combination of tasks including:

- Reading the material in this Learner Guide.
- Asking questions about anything you don't understand.
- Observing other officials during events.
- Reinforcing the skills you are learning in practical situations.
- Satisfactorily completing the activities in this Learner Guide.
- Completing the assessment activities outlined in this Learner Guide.

WHAT RESOURCES DO I REQUIRE?

The main resource you will require to complete the learning for this unit of work is this **Learner Guide**. You will also need a copy of the current [SA Swimming Rules](#) and **access to swimming events** where you can be practically assessed as an Operator of Automatic Officiating Equipment.

WHAT IF I ALREADY HAVE THE SKILLS?

You may have already attained the skills required to complete this learning module. If so, you can request your State/Territory Swimming Association for an initial assessment of your **current competence**. This assessment will determine the level of your skills and whether you need additional training.

If you would like to undertake assessment for formal recognition of your existing skills, you will be required to complete a detailed Recognition of Prior Learning (RPL) application form that will allow an assessor to review your skills against the specific requirements for this unit of work. Discuss this process with your State/Territory Swimming Association.

LEGISLATIVE REQUIREMENTS

All Swimming Officials whether paid or unpaid must meet the legislative requirements of each state and territory when dealing with children and vulnerable people. Please check with your State/Territory Swimming Association to complete any documentation required to meet this legislation.

WHAT ABOUT ASSESSMENT?

To undertake the assessment for this unit of work, you will need to complete the following assessment tasks:

- Completion of this Learner Guide
- Completion of practical tasks

You will be assessed at a swim meet to ensure the relevance of the assessment process.

When you complete the assessment within this Learner Guide and are assessed as competent by your assessor, you will be eligible to receive accreditation from SA. The assessment activities are found in the final section within the Learner Guide and can be identified by the icon below.



ASSESSMENT

The Learner Guide also includes a series of specifically designed learning activities, which will allow you to practice your new skills prior to assessment. These activities must be completed and will be represented by the logo below:



ACTIVITY

HOW DO I START?

You can undertake the activities in the Learner Guide at your own pace, or under the supervision of your trainer / mentor.

You are ready to start.

UNIT 11: AUTOMATIC OFFICIATING EQUIPMENT (AOE) OPERATOR

This unit outlines a range of skills that are required by Automatic Officiating Equipment (AOE) Operators. The elements within this unit are:

- **Preparation**
- **Role of the AOE Operator**

Preparation

The AOE Operator plays a very important role in ensuring electronic times and places are accurately captured for each swimmer. Just as with all other officiating roles in the sport of swimming, pre-event preparation is a key factor in effective operations.

Some of the steps that you will need to take in preparing for your role include:

1. Arrive at venue at least 60 minutes prior to start of meet.
2. Report to the Referee to receive any instructions.
3. Have all equipment required to complete task, ensuring it is tested and working correctly.
4. Meet with all other officials with whom you will be working and familiarise yourself with your work area.

Role of the AOE Operator

The AOE Operator shall operate, or assist in the operation of any approved Automatic Officiating Equipment. The AOE Operator works closely with the Control Room Supervisor / Chief Recorder / Referee.

- Review the meet format.
- Review the set-up of the AOE, anticipate problems and their resolution to minimise disruption of the meet (e.g. paper tape changes).
- Agree on the decision making process in the event of timing discrepancies, light or missed touches, or other timing issues.
- Determine how the Referee wishes to be involved in the decision process in the event of timing discrepancies.
- Advise the Referee of the circumstances where the quality of the electronic timing cannot be judged (for example, official splits at the far end of a 50m pool).
- If a scoreboard is in use, determine if the scoreboard times will be used as official times (Referee approval of the scoreboard), and agree on the procedure for the correction of a light touch or disqualification initially displayed, prior to final approval.
- Clarify with the Starter and Referee the signal or scoreboard condition that will inform them that the timing equipment is ready for the start of a new race. The re-setting of the running time to zero or the clearing of all times from the scoreboard usually signifies this.
- The Referee must watch the clock after the start of the race in order to ensure that time is running on the clock. In the event of the clock not starting the AOE Operator must inform the Referee.
- Review the flow of data and paperwork with the Control Room Supervisor/Chief Recorder, and the meaning of any symbols or warnings produced by the AOE.
- Observe all touches.
- Check for failures of the equipment or incorrect operation and attempt appropriate corrections. This must be done in consultation with the Referee to minimise delays in the meet, and to expedite corrective action.
- If you as an AOE Operator are faced with a situation where the automatic and semi-automatic systems fail to provide a time or place for a competitor, the Referee must be consulted. In the event of a complete failure of the AOE primary and backup systems (such as when a start signal is not received, and the race is allowed to be completed), the Referee must be informed. In consultation with the Technical Manager, the Referee will decide how the race will be re-swum so times can be obtained.
- On the receipt of information from an AOE Operator of a failure of the AOE to properly record a time, oversee the correction of incorrect times by examining the results produced by the backup timing device or consulting with the Referee. The proper procedures for this are laid out in Rule SW 13.
- Remain available to the Control Room Supervisor/ Chief Recorder to analyse any problems with the results. Current types of software based timing equipment store the raw data from each race, so it can be retrieved after the event is finished.
- Discuss with the Control Room Supervisor / Technical Manager / Referee any difficulties with the operation of the AOE that were encountered.

Timing Equipment

The FINA Facilities Rules (FR 4) addresses requirements and standards when using AOE. There are different companies producing such equipment and all are not the same in terms of how they operate.

Commonly used Equipment:

1. Timing console used for primary and secondary backup timing.
2. Central timing system, which coordinates incoming information from the start system, touchpads, relay platforms, and backup buttons. It sends information to scoreboards, meet software and printers. Some brands of timing systems may use a personal computer or laptop as a central timing system.
3. Push-buttons for semi-automatic backup timing. To ensure proper functioning of the timing console, three push buttons are to be used for each lane. Where a video backup system is also in place, generally only one push button is required.



ACTIVITY 11.1

Have you ever seen AOE used? If so, which type of AOE have you seen used?



ACTIVITY 11.2

Conduct research to find out which type of AOE system is used in the main competitive aquatic centre in your state.

Venue:

Type of AOE:

NOTE: The term AOE times can be applied to swimmers' finishing times in individual events and relay events, as well as to electronic relay changeovers.

Definitions

- **Automatic Officiating Equipment**

*An automatic timing system is a system that is activated by the Starter to give the signal to the swimmer to start the race, and will be **stopped by the swimmer** when touching the touchpad at the finish of the race.*

- **Semi-Automatic Officiating Equipment:**

*A semi-automatic timing system is one that is activated by the Starter in the same way as the automatic timing system, but will be **stopped by an official** using a push button to judge the arrival of the swimmer at the end of a race.*

However, as stated in SW 11.1 referenced below, having an automatic timing system will not ensure getting an official time for a swimmer if that swimmer fails to activate the system (e.g. a light touch). Therefore there is still the need for a backup time, which can be obtained from a video backup system, a semi-automatic time from an Official, or stopwatches (manual times).

- **Light Touches**

If there is concern that the incoming swimmer in an individual event or a relay event has made a "light touch" and thus did not activate the touchpad, it would be identified by the AOE Operator / Control Room Supervisor. If they determine that there was a light touch in a given lane, it would be considered a "failure of the automatic equipment system", and the semi-automatic time or time from digital watches would be used.

SAL SWIMMING RULES

SW 11 TIMING

SW 11.1 The operation of Automatic Officiating Equipment shall be under the supervision of appointed officials. Times recorded by Automatic Equipment shall be used to determine the winner, all placings and the time applicable to each lane. The placings and times so determined shall have precedence over the decisions of timekeepers. In the event that a breakdown of the Automatic Equipment occurs or that it is clearly indicated that there has been a failure of the equipment, or that a swimmer has failed to activate the equipment, the recordings of timekeepers shall be official as per 13.3.1 and 13.3.2.

SW 11.2 When Automatic Equipment is used, the results shall be recorded only to 1/100 of second. When timing to 1/1000 of a second is available, the third digit shall not be recorded or used to determine time or placement. In the event of equal times, all swimmers who have recorded the same time at 1/100 of a second shall be accorded the same placing. Times displayed on the electronic scoreboard should show only to 1/100 of a second.

SW 11.3 Any timing device that is terminated by an official shall be considered a watch. Such manual times must be taken by three timekeepers appointed or approved by the Member in the country concerned. All watches shall be certified as accurate to the satisfaction of the governing body concerned. Manual timing shall be registered to 1/100 of a second. Where no Automatic Equipment is used, official manual times shall be determined as follows:

SW 11.3.1 If two (2) of the three (3) watches record the same time and the third disagrees, the two identical times shall be the official time.

SW 11.3.2 If all three (3) watches disagree, the watch recording the intermediate time shall be the official time.

SW 11.3.3 With only two (2) out of three (3) watches working the average time shall be the official time.

SW 11.4 Should a swimmer be disqualified during or following an event, such disqualification should be recorded in the official results, but no time or place shall be recorded or announced.

SW 11.5 In the case of a relay disqualification, legal splits up to the time of the disqualification shall be recorded in the official results.

SW 11.6 All 50 metre and 100 metre splits shall be recorded for lead-off swimmers during relays and published in the official results.

SW 13 AUTOMATIC OFFICIATING PROCEDURE

SW 13.1 When Automatic Officiating Equipment (See FR 4) is used in any competition, the placings and times so determined and relay take-offs judged by such equipment shall have precedence over the timekeepers and the Inspectors of Turns.

SW 13.2 When the Automatic Officiating Equipment fails to record the place and/or time of one or more swimmers in a given race.

SW 13.2.1 Record Automatic Equipment times and places

SW 13.2.2 Record human times and places;

SW 13.2.3 The official place will be determined as follows:

SW 13.2.3.1 A swimmer with an Automatic Equipment time and place must retain his relative order when compared with the other swimmers having an Automatic Equipment time and place within that race.

SW 13.2.3.2 A swimmer not having an Automatic Equipment place but having an Automatic Equipment time will establish his relative order by comparing his Automatic Equipment time with the Automatic Equipment times of the other swimmers.

SW 13.2.3.3 A swimmer having neither an Automatic Equipment place nor an Automatic Equipment time shall establish his relative order by the time recorded by the Semi-Automatic Equipment or by three digital watches.

SW 13.3 The official time will be determined as follows:

SW 13.3.1 The official time for all swimmers having an Automatic Equipment time will be that time.

SW 13.3.2 The official time for all swimmers not having an Automatic Equipment time will be the three digital watches human time or the Semi-Automatic Equipment.

SW 13.4 To determine the relative order of finish for the combined heats of an event, proceed as follows:

SW 13.4.1 The relative order of all swimmers will be established by comparing their official times.

SW 13.4.2 If a swimmer has an official time that is tied with the official time(s) of one or more swimmers, all swimmers having that time shall be tied in their relative order of finish in that event.



ACTIVITY 11.3

Provide details of a time when you witnessed a failure in the AOE and a backup time was required. Which method of backup timing was used? Was this process effective? Why / why not?

Relay Changeovers

“When Automatic Officiating Equipment is used in any competition, the placing and times so determined and relay take-offs judged by such equipment shall have precedence over the timekeepers and Inspectors of Turns.” (SW 13.1)

Where automatic relay changeover timing system is in place, if the outgoing swimmer leaves the block before the incoming swimmer touches the touchpad, the console will indicate a negative reading. For Omega timing systems, a changeover greater than -0.03 seconds is considered a disqualification for an early take-off. It is important to check and be aware of the manufacturer’s tolerance limits.

Where there is no automatic relay changeover timing system in place at a competition, an Inspector of Turns on each lane shall determine by visual inspection whether or not the starting swimmer is in contact with the starting platform when the preceding teammate touches the wall.



ACTIVITY 11.4

What is the preferred back up method used in the case that there is no relay changeover timing system in place



ACTIVITY 11.5

If there was a discrepancy in timing results, what involvement do you believe the Referee should have and why?



ACTIVITY 11.6

What is a common signal or scoreboard condition that will inform officials that the timing equipment is ready for the start of a new race?



ACTIVITY 11.7

In addition to the AOE Operator observing all the touches, which other officials may be able to assist in this process?



ACTIVITY 11.8

If you as an Operator of AOE are faced with a situation where the automatic and semi-automatic systems fail to provide a time or place for a competitor, with whom should you consult?



ACTIVITY 11.9

If a competitor is given an AOE time, but not an AOE place, how is the competitor's place allocated?



ACTIVITY 11.10

If a competitor is not allocated an AOE time or place, how is the competitor's place allocated?



ASSESSMENT

You are required to be assessed as an AOE Operator in a full session of a swim meet, by your assessor. This will provide evidence of your competence in a swimming specific environment.

ASSESSMENT TOOL - UNIT 11 AOE OPERATOR

Element / Performance Criteria AOE Operator	Displayed Competency		Comments <small>Must be completed if Competency has been marked NO</small>
	YES	NO	
1. Preparation			
1.1 Arrived at venue at least 60 minutes prior to start of meet.			
1.2 Reported to Referee to receive any instruction.			
1.3 Had access to and checked all equipment required to complete the task.			
1.4 Reviewed the AOE process with all / any electronic operators.			
1.5 Briefed any officials re the AOE system as required.			
1.6 Demonstrated an understanding of the term AOE.			
1.7 Demonstrated an understanding of commonly used types of AOE.			
1.8 Demonstrated an understanding of the procedures to be used in the case of light touches when using AOE.			
1.9 Demonstrated an understanding of the procedures to be used in the case of AOE failure in a swim meet.			
2. Performance of Task			
2.1 Demonstrated the ability to determine official swim times using AOE.			
2.2 Checked for failures of the equipment or incorrect operation and attempted appropriate corrections. This must be done in consultation with the Referee to minimise delays in the meet, and to expedite corrective action.			
2.3 If no start time was available, a manual start was inserted, so that at least the electronic equipment can obtain the relative order of finish.			
2.4 On the receipt of information from an Operator of AOE of a failure of the AOE to properly record a time, the candidate oversaw correction of incorrect times by examining the results produced by the backup timing device or consulting with the Referee. The procedures laid out in rule SW 13 were followed.			
2.5 After the last race, remained available to the Control Room Supervisor / Chief Recorder to analyse any problems with the results.			
2.6 Discussed with the Referee any difficulties encountered with the operation of the AOE.			
2.7 Demonstrated an understanding of AOE procedure as they relate to FINA rules.			
3. General Competencies			
3.1 Was courteous to all competitors, coaches, parents, spectators and other officials at all times.			
3.2 Maintains a level of concentration, physical fitness or capability to perform the task.			
3.3 Possesses State-specific accreditation in relation to child protection legislation.			

Name of Candidate: _____

Swimming Club: _____

National Technical Official Accreditation Number: _____

State-Specific Working With Children Card No _____

State-Specific Working With Children Card Expiry No: _____

Date of Assessment: _____

Name of Assessor: _____

ASSESSMENT DECISION:

Competent

Not Yet Competent

Assessor Signature: _____

Candidate Signature: _____

FUTURE TRAINING / ASSESSMENT RECOMMENDATIONS: