



SINGAPORE DRAGON BOAT FESTIVAL 2009

EVENT SAFETY PLAN **(Version 1.1)**

Introduction:

This Event Safety Plan (ESP) may be supplied as a briefing pack for distribution to crews, officials, helpers, emergency & rescue personnel and other parties and on the basis that the Organizers are deemed to be in the need to know.

Dragon Boating is an 'Assumed Risk Water Contact Sport' that may carry attendant risks. Participants should be aware of and accept these risks; be responsible for their own actions and involvement; and fully understand that they have a duty of care towards other participants in the sport on the event day.

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1. **EMERGENCY CONTACT LIST:**

1.1 **Contact List (to be activated on Race Day)**

Organization	Contact Person	Designation	Location/Contact No
Singapore Dragon Boat Association	Mr Surash Raman Mukundan	Chief Official	Official's Tower
	Mr Goh Han Kim	Chief Race Judge	Official's Tower
	Mr Mahmood Idrose	Chief Safety Officer	Start Pontoon
	Mr Lee Kheng Siah	Chief Marshall	Umpire Boat
	Mr Lee Kok Poh	Chief Umpire	Umpire Boat
	Mr Raizal A Jalil	Race Control	Race Control Station
Emergency Services	Duty Officer	Police	999
	Duty Officer	SCDF Ambulance	995
	Duty Officer	Civic Ambulance	1777
	Duty Officer	SCDF Rescue	995

2. **EMERGENCY SERVICES PROVISION:**

2.1 **First Level Emergency Support:**

The Event Organizer will provide for First Level Emergency Support in the form of a First Aid Station provided by a local civic ambulance service manned by 2 trained medics (excluding ambulance driver).

The civic ambulance will be stationed on site at a location determined by the Event Organizer. You are encouraged to identify their location on the Event Day.

The civic ambulance service is capable of handling first rescuer life threatening emergencies and their primary role is to evacuate such emergencies to the nearest accident and emergency (A&E) capable hospital.

2.2 **On-Water Emergency Support:**

The Event Organizers will provide x 2 numbers of Rescue Boats (minimum) on the event day. These boats will be crewed by x 1 trained boatman and x1 qualified lifeguard.

Furthermore, the Event Organizers will also deploy the 2 Race Umpire boats (minimum) to assist in the water rescue effort in the event of an emergency. These boats will be crewed by x 1 trained boatman and x1 qualified lifeguard.

The role of the Emergency On-Water Support services is to initiate rescue and evacuate the casualties to land where they will be given emergency first aid support, if required. The qualified lifeguards are also capable of rendering emergency cardio and pulmonary resuscitation (CPR), if necessary.

2.3 Higher Level Emergency Service Support:

Higher Level Emergency Services will be provided by Singapore's national public emergency services manned by the Singapore Police Force (SPF) and Singapore Civil Defense Force (SCDF)

2.4 Individual Emergency Service:

Individuals requiring emergency treatment or services may utilize the First Aid Station provided by the Event Organizer.

Should individuals require higher level emergency or medical services and want to initiate their own evacuation to the nearest A&E hospital, the recommended nearest A&E hospital would be the Singapore General Hospital (SGH) – 10 minutes away at 70km/hr in smooth free-flowing traffic. (please refer to the Singapore Street Directory for traveling route)

3. WHO'S INVOLVED:

The Singapore Dragon Boat Festival 2009 is jointly organized by several agencies/organizations (see Item 3.1 below) with the Singapore Dragon Boat Association (SDBA) taking the lead in coordinating the entire effort. For the purpose of this Event Safety Plan, the Event Organizer will refer to all these organizations in full unless otherwise specified.

3.1 The Organizers:

The following agencies/organizations are involved in the organizing of the Singapore Dragon Boat Festival 2009:

1. Singapore Dragon Boat Association;
2. People's Association Water-Venture;
3. Singapore Polytechnic &
4. PUB Marina Barrage

4. INFO ON RACE AREA LOCATION:

4.1 Race Area:

The race will be held on the Marina Reservoir with permission from the following agencies/organizations:

- a. Public Utilities Board (PUB) – as the national waterway managing agency & Land owner, Marina Barrage;
- b. Singapore Tourism Board &
- c. Urban Redevelopment Authority

4.2 Public Access:

There is very limited parking space available at the Marina Barrage. You are therefore advised to utilize the public transport system which has been extended with special shuttle services. This service will operate from 7.00 am to 7.00 pm.

Shuttle Services will be available from:-

1. Marina Bay MRT Station (main access node for North-South axis)
2. Tanjong Pagar MRT Station (main access node for East-West axis)

The shuttle service will depart at regular 5-minutes (Marina Bay) and 3 minutes (Tanjong Pagar) intervals during peak hour traffic in the morning (7.00 am to 10.00 am) and evening (4:30 pm to 5:30 pm). In between these hours, the service will still run but at reduced frequency. SMRT will adjust the frequency and number of buses if necessary.

4.3 Nearest Public Toilet facilities:

There are limited public toilet facilities available at Marina Barrage.

The Event Organizer will also be providing portable public toilet booths at the race venue for convenience. These booths offer basic toilet amenities and does not support shower/bath facilities.

Please keep the toilets clean for the benefit of all.

4.4 There is only one designated dragon boat loading and unloading area.

4.5 Spectators can view the race proceedings from the Marina Barrage Green Deck Roof.

5 SAFETY MEASURES:

5.1 Steersperson:

- a. All Steerspersons must be suitably qualified and preferably SDBA-certified. Team Managers must ensure that their steerspersons have at least completed the SDBA Basic Helm Course and issued with the relevant proficiency helm certificates.
A certified steersperson who is trained has the required safety training in helming and has the skill therefore to know what to do in the event of an emergency.
- b. All SDBA trained Recreational Dragon Boat Instructors and Technical Level coaches are qualified as well.

5.2 Boat Captain:

- a.** Teams must appoint a Boat Captain to be in-charge of the crew while inside the dragon boat as well as during embarking and disembarking. Traditionally, the steersperson would assume the role of the Boat Captain as they command the best views from inside the dragon boat. Alternatively, the Drummer can also assume this role.
- b.** The Boat Captain primary role is to control the crew's actions inside the dragon boat. He/She would be responsible for giving the command to move or stop the dragon boat. The Boat Captain is also responsible to maintain the dragon boat's stability and to prevent capsizing by controlling the crew's movements, especially during the embarking/disembarking process.
- c.** In an emergency or a dangerous situation that may lead to capsizing or swamping, the Boat Captain must alert the safety services of their predicament. This is done by raising/waving one or both hands over the head repeatedly to attract the attention of the nearest Rescue Crew.
- d.** In the event of capsize or swamping, the Boat Captain must maintain control of the crew inside the water at all times until rescuers arrived. Boat Captains must make sure that all crew-members are accounted for and initiate a quick search for any missing crew. After rescuers arrived on the scene, the Boat Captain must inform the Rescue Crew of any missing crew-members. Once back on shore, the Boat Captain must ensure that all crew are accounted for and inform the Race Controller of any unaccounted or missing crew.

5.3 Buddy System:

All teams must adopt the Buddy-Buddy System to better manage their crew's safety. The system accorded each crew with a partner for mutual checking on safety and support in an emergency such as during a capsize or swamping.

5.4 Capsize/Swamping Drill:

- a.** The crew must be briefed on the Capsize Drill and know what to do in the event of one. Similarly, the Capsize Drill will also apply to a dragon boat swamping.
- b.** The Capsize Drill has been designed to ensure the crew-members' safety and well being during a dragon boat capsize or swamping. The drill will accord crew-members with the necessary actions and expectations to ensure a safe environment while awaiting rescue.
- c.** The Boat Captain will be the person responsible to initiate and conduct the Capsize Drill.

5.5 Rescue Crew:

All rescue boats will be crewed by a certified MPA license boatman and qualified life-guard. They will be on hand to cover the safe running of the race at all times and will be in constant communication with Race Control by means of a 2-way radio system (walkie-talkie).

5.6 Weak Swimmers:

- a.** Like all water crafts, the dragon boat possessed the potential to capsize or swamped which will then result in crew-members getting immersed in the water.
- b.** The Marina Reservoir is relatively deep and are bound by tidal as well as surface wind actions that are capable to cause drifting.
- c.** Although the situation is manageable, the possibility of falling into the water is therefore possible. If you have weak-swimmers in your crew, you are advised to please adopt a suitable identification system that can identify them clearly to rescuers in the event of a boat capsize or swamping.

You can also position them such that they will be in between strong or efficient swimmers that can help them when in the water. Make sure that their life-vests are secured properly and they are aware of all the safety measures and provisions available to them.

6. HAZARD IDENTIFICATION & RISK RATING:

S/N	Hazard Description	Risk	Control Measures	Likelihood	Severity	Risk Rating	Additional Control Measures
1.	Capsize / Swamping	<ul style="list-style-type: none"> Knocks, impact related injuries Fractures, joint dislocations Immersion Drowning 	<ul style="list-style-type: none"> Compulsory qualified boat helms Buddy System Crew knows Capsize Drill Rescue Boat Compulsory wearing of life vests First level emergency 1st Aid cover 	1	1	2	<ul style="list-style-type: none"> Current measures adequate. Appointment of Boat Captain to control crew inside the dragon boat
2.	Dragon Boat Collision	<ul style="list-style-type: none"> Knocks, impact related injuries Fractures Immersion 	<ul style="list-style-type: none"> Wide and defined lanes Compulsory qualified boat helms First level emergency 1st aid cover 	1	1	1	<ul style="list-style-type: none"> Race Marshall and Umpires following closely behind
3.	Collision with other types of vessels	<ul style="list-style-type: none"> Knocks, impact related injuries Fractures Immersion 	<ul style="list-style-type: none"> All controlled measures in place i.e. cordon markers, buoys & stoppage of activities. Race Umpires to clear waterway before start and during each race 	1	0	1	<ul style="list-style-type: none"> Controlled movement of Race Marshall, Umpire and Rescue boats for each race.
4.	Adverse or stormy weather conditions during competition	<ul style="list-style-type: none"> Fall related injury Drowning Hypothermia Lightning strike 	<ul style="list-style-type: none"> Use of sheltered Marina Barrage for cover. Provision of tentages First level emergency 1st aid cover 	2	1 1	2 2	<ul style="list-style-type: none"> Suspend the race until weather clears. Wait 15-30 minutes after last lightning strike before resuming
5.	Water borne diseases & related illness	<ul style="list-style-type: none"> Illness 	<ul style="list-style-type: none"> Safety advice. First level emergency 1st aid cover If unsafe, warning will be issued by PUB 	0	0	1	<ul style="list-style-type: none"> Actual water quality unknown but not polluted and under constant monitoring by PUB.
6.	Alcohol related Incidents	<ul style="list-style-type: none"> Illness Injury 	<ul style="list-style-type: none"> Safety briefing on alcohol ban. Must be fit to race. 	2	3	3	<ul style="list-style-type: none"> No alcohol allowed. Boat Captain responsible for fitness state of crew prior to each race
7.	Trip & Slip hazards at Embarkation Point	<ul style="list-style-type: none"> Fall related injury Fractures Immersion 	<ul style="list-style-type: none"> Boat Captain to manage movement of crew. Appointment of Boat Marshalls to control the Embarkation Point 	2	3	3	<ul style="list-style-type: none"> Segregation of competitors and crowd.
8.	Litter Hazards	<ul style="list-style-type: none"> Personal Injury 	<ul style="list-style-type: none"> Free passage to embarkation/disembarkation areas Personal awareness. 	1	1	1	<ul style="list-style-type: none"> Contract cleaners/sweepers in place.
9.	Noise nuisance , e.g. P.A. System, Drums, Cheering, etc	<ul style="list-style-type: none"> Illness Personal Injury 	<ul style="list-style-type: none"> Controlled P.A system and frequency of use. Announcement 1 week prior to race(banners at venue) 	1	1	1	<ul style="list-style-type: none"> Measures in place to control effect of noise.

6. HAZARD IDENTIFICATION & RISK RATING (CONT'D):

S/N	Hazard Description	Risk	Control Measures	Likelihood	Severity	Risk Rating	Additional Control Measures
10.	Boat Communication System	<ul style="list-style-type: none"> Radiation related injury 	<ul style="list-style-type: none"> All safety aspects in place. All comm. gears are in good condition 	1	1	1	<ul style="list-style-type: none"> Race officials, helpers and crew have been briefed on the proper and safe handling of the comm. gears.
11.	Uncontrolled crowd, swimmers, anglers	<ul style="list-style-type: none"> Personal Injury 	<ul style="list-style-type: none"> Stewards briefing. Barriers. Safety measures adherence. 	2	3	3	<ul style="list-style-type: none"> Demarcation of participants & crowd. Higher level emergency plan to seek SPF help in place
12.	Power boats in water	<ul style="list-style-type: none"> Individual Injury by outboard motor blades 	<ul style="list-style-type: none"> Compulsory licensed boat drivers. Rescue safety measures Technique & Operational procedures. 	2	3	3	<ul style="list-style-type: none"> All safety boats equipped with kill switches. Race officials, helpers and crew have been brief on the proper and safe handling of the power boats
13.	Heat Stroke	<ul style="list-style-type: none"> Fainting Dehydration 	<ul style="list-style-type: none"> Water Points Team Supply of water Water at officials' control point First level emergency 1st aid cover 	2 1	2 1	3 2	<ul style="list-style-type: none"> Ambulance in place First aiders and equipment in place Rescue boats with First Aid providers and equipment
14.	Steersperson / Drummer falling into the water	<ul style="list-style-type: none"> Immersion Knocks, impact related injury Drowning 	<ul style="list-style-type: none"> Compulsory qualified boat helms Compulsory wearing of life vests 	2	3	3	<ul style="list-style-type: none"> Briefing of race start procedure (steersperson must release rope at Air Horn blast) Pre-race mandatory requirement that crew must be able to swim at least 50m
15	Rudder entangled in start rope	<ul style="list-style-type: none"> Capsize Swamping Immersion 	<ul style="list-style-type: none"> Compulsory qualified boat helms Compulsory wearing of life vests Rescue Boats in place 	1	1	1	<ul style="list-style-type: none"> Steersperson must exercise initiative to ensure that the rudder is free and not entangled

Likelihood Rating Guide

1 – Very Unlikely
 2 – Unlikely
 3 – Likely
 4 – Very Likely

Severity Rating Guide

1 – Not Serious
 2 – Concern
 3 – Serious
 4 – Very Serious

Risk Rating Guide

1 – Very Low
 2 – Low
 3 – High
 4 – Very High

7. RISK MANAGEMENT PROCEDURES:

In the event of one of the risks above occurring:

Hazard	Sub-Hazard	Procedure (Race Control will review Safety Provisions at once)
Falling during Embarking or Disembarking	Immersion, minor falling related injuries, eg. bruises	Check for shock (face discolored, unresponsive to questions, uncontrolled body shaking). Go to First Aid Station. Evacuate to A&E if necessary
	Major falling-related injuries, eg. fractures	Stop race immediately. Evacuate casualty to A&E.
Capsize	Immersion, panic	Stop race immediately. Safety Boats to conduct rescue and recovery ASAP. Check for shock. Check for injuries
	Knocks, impact related injuries, eg. bruises, fractures,	Buddy-buddy, Team Managers/SLOs & Organizers to account for everyone. Stop the race programme until recovery completed
Swamping	Immersion	Same as Capsize
	Knocks	Same as Capsize
Collision	Immersion	Stop the boat immediately. Check everyone is accounted for, check for injuries, check for major leaks. Boat Captain decide to continue or not. Alert the Safety Boat for assistance if necessary, eg. towing
	Knocks, impact related injuries, eg. bruises, fractures,	Same as point above plus provide First Aid or evacuate to A&E if required.
Falling out of boat	Immersion	Stop the boat immediately. Check everyone is accounted for. Stand-by the fallen and alert the Safety Boat to rescue
Medical Emergency inside boat	Depends on type	On land – substitute the paddler and accompany him to First Aid Station, evacuate to hospital if necessary On water – alert the Safety Boat. While racing, Boat Captain to immediately stop the boat and alert the Safety Boat
Spectators falling in	Immersion	Most likely to be rescued by other spectators.
Immersion (while in water)	Panic, Swallow water	Buddy-buddy to check on each other, help each other to stay right side up.
	Drowning	Same as above plus stronger swimmers in the crew to immediately offer aide
After Immersion	Illness	Uncontrollable factor. Prevention is still the best defense
Inclement weather	Poor visibility, slippery	Race Control to stop the programme. Know where the shelters are

8. WET WEATHER PLAN:

- a. For rain or showers exceeding Category 1 (Cat 1) rating of severe weather condition classified by the Meteorological Services Department of the (NEA), The Organizers will suspend the event until the all-clear is given by the NEA. All officials/participants already on the water will be recovered back to land. Shelter on land will be provided by the Marina Barrage building structure.
- b. For rain or showers not exceeding Cat 1 rating of severe weather condition classified by the Meteorological Services Department of the NEA, The Organizers may allow the race to continue provided all of the following conditions are possible:-
 - no lightning strikes
 - visibility still clear up to 1,000m
 - water condition not detrimental to the safe handling of the dragon boat
 - rainfall does not exceed 10mm within 1 minute inside the dragon boat
 - all safety provisions still in place and functional
 - Conditions of Item 4 of the Hazard Identification & Risk Rating are still met
- c. For the above purpose, The Organizers will be in constant contact with the NEA's weather information services at hotline Dial-a-Weather 6542 7788 to remain updated of the weather and climate conditions during the entire duration of the race.
- d. The Organizers will keep all the participants updated on the progress and decision to carry-on with the races in the advent of rain or showers via the public announcement system.
- e. In the advent of lightning strikes, The Organizers will hold-off all activities and recover all officials/participants already on the water back to land.

International recommendation is to allow for a 20-30 minutes pre (impending) and post strike intervals. The most practical way is to look for tail signs of approaching severe or poor weather. Impending strike is hard to predict and so The Organizer's reaction will be confined to the post-strike. The Organizer's will wait at least 15mins after the post-strike before reassessing all safety protocols again before continuing the event.

9. ORGANIZER'S PLEDGE:

The Event Organizers of the Singapore Dragon Boat Festival 2009 hereby pledge that we will undertake, cater for and provide the necessary safety provisions for the safe management of the above event as mentioned in this Event Safety Plan.

9.1 To All Users of this Event Safety Plan: (ESP)

- a.** This Event Safety Plan (ESP) has been specially customized for the Singapore Dragon Boat Festival 2009. It should be treated as a guide to ensure a safe programme of events. Still, the user of this ESP is reminded that safety functions best if practiced by the individual first.
- b.** This ESP is not comprehensive and the Organizers acknowledge that some information may have been left out but please be reassured that if there are, it is not intentional or deliberate.
- c.** The ESP has been formulated to the best knowledge and ability of the Organizers. The User is encourage to help expand the coverage of this ESP and if they have any feedback, information or clarifications, please contact The Organizers
- d.** Wet Weather Plan – taking into consideration of poor visibility, slippery and lightning strike, The Organizers will consider holding off all activities on the impending and post lightning strikes.