



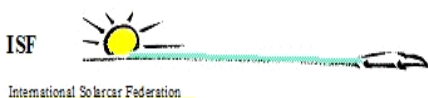
General Regulations

for the conduct of

2009

World Solar Challenge

This document is incomplete without part 2 – Technical Regulations



WORLD ENVIRONMENT DAY 5 JUNE 2008



TOWARDS A LOW CARBON ECONOMY



World Solar Challenge 2009
Part 1 General Regulations

v 1.7 Nov 2008

Explanatory notes are displayed in shaded boxes, such as this one.

1. Scope & Application

- 1.1 These regulations apply to the 2009 World Solar Challenge® (The Event), which comprises participants' application, pre-event preparation, scrutineering, testing, on-road components and associated activities, and supersede regulations for any previous event.
- 1.2 Teams and individuals requesting entry into the event are assumed to know these regulations and their participation in the event will constitute an acceptance of them.
- 1.3 The event will be conducted under these Regulations, the Technical Regulations and appendices and any further regulations that may be issued, all of which comprise the Regulations for the event.
- 1.4 The event is recognised by the International Solarcar Federation (ISF).

2. The Event

- 2.1 The Purpose of the event is to stimulate research into sustainable transport.
- 2.2 The Challenge is to design and build a vehicle described in the technical regulations, and drive it across the continent of Australia.
- 2.3 The event will incorporate a Technology Class for vehicles demonstrating practical advancements in automotive technology.
- 2.4 Other award categories (e.g. for Technical Innovation) will be announced in further regulations.
- 2.5 The 'Correct Title' of the 2009 event is the "World Solar Challenge®".
 - 2.5.1 Entrants shall use the "Correct Title" in all references to The Event.
- 2.6 The Official Language of the event is English.

3. Entrants & Eligibility

- 3.1 The Entrant is the legal entity completing the Participation Agreement.
- 3.2 Eligible Vehicles will be those described in the Technical Regulations.

4. Organiser

- 4.1 South Australian Motorsport Board
World Solar Challenge
GPO Box 1972
Adelaide 5001
AUSTRALIA
Telephone: +61-8-8463 4524
Facsimile: +61-8-8212 6700
E-Mail: wsc@saugov.sa.gov.au

4.2 Organising Committee

Chris Selwood, Dr. David Rand, Dr. Paul Gwan, Prof. John Storey, David Kitching

4.3 Stewards of the Event

The Stewards of the Event shall be appointed by the International Solarcar Federation.
Mr John Ward (Australia), Dr Ivor Grayson-Smith, Mr Mike Philips (Europe), Takahiro Iwata (Japan).

4.4 Senior Officials

- 4.4.1 The Senior Officials shall be appointed by the International Solarcar Federation.
- 4.4.2 Event Director – Chris Selwood
- 4.4.3 Clerk of the Course – (to be announced in further regulations)
- 4.4.4 Assistant Clerks of the Course - (to be announced in further regulations)
- 4.4.5 Chief Scrutineer – Dr Paul Gwan
- 4.4.6 Chief Battery Scientist – Dr David Rand
- 4.4.7 Chief Scientist – Prof John Storey
- 4.4.8 Chief Safety Officer – Peter Schloithe
- 4.4.9 Chief Medical Officer - Dr Bill Boyd
- 4.4.10 Chief Timekeeper/Results Coordinator – (to be announced in further regulations)

4.5 Date and Venue of the Event

- 4.5.1 The event will commence with the opening of registration on 21 October and conclude at the close of the awards ceremony on 31 October 2009.
- 4.5.2 The event will be held on public roads between Darwin and Adelaide, and such other venues as approved by the Organiser.

4.6 Entries

- 4.6.1 Applications for participation may be made by Entrants (q.v 3) with eligible vehicles.
- 4.6.2 Applications must be made on the approved form and signed by the Entrant.
- 4.6.3 Every Entrant must complete the Participation Agreement.
- 4.6.4 Applications will be opened on publication of the regulations and close on 30 May 2009 or when the maximum number of entries is reached.
- 4.6.5 The (Solarcar) field will be limited to thirty (30) vehicles, or such number as the Organiser determines.
- 4.6.6 Entries received after capacity has been reached may be put on a reserve list.
- 4.6.7 The Organisers reserve the right to accept or reject any entry at their absolute discretion. No correspondence will be entered into.
- 4.6.8 Places on the entry list can only be confirmed upon receipt of entry fees.
- 4.6.9 Entries will become void if payments and/or documentation are not received by due dates.
- 4.6.10 All entries are subject to qualifying.

4.7 Change of Entry Details

- 4.7.1 An Entrant may change the specification of the vehicle or drivers up to the scheduled time of scrutineering, providing such changes are notified in writing. No guarantee is given that changes will appear in event publicity.
- 4.7.2 Once a vehicle and its drivers have passed scrutineering, no changes will be permitted.

4.8 Financial

- 4.8.1 The entry fees for the 2009 event are:
 - Solarcars: AU\$6,000 + tax (AU\$6600)
 - Technology Class: please contact Organiser.
- 4.8.2 The South Australian Motorsport Board (A.B.N 43 976 679 496) will issue invoices on behalf of the World Solar Challenge.
- 4.8.3 All invoices are payable by the date shown thereon.
- 4.8.4 All outstanding financial matters must be finalised before the start of the event.

4.9 Amendments to the Regulations

4.9.1 These Regulations may be amended by the issue of further regulations.

4.10 Interpretation of Regulations

4.10.1 The Stewards of the Event are the only authority empowered to make a decision on the interpretation of these Regulations.

4.11 Unfair Practice

4.11.1 Exclusion will occur if the Stewards deem an entrant to have departed from the spirit of the competition by deliberately violating these regulations or otherwise acting to gain unfair advantage over other Entrants.

4.12 Route

4.12.1 The Event shall be conducted on public roads between Darwin, Northern Territory and Adelaide, South Australia, a distance of approximately 3,000 km.

4.13 Authority to be on Public Roads

4.13.1 Authority to use public roads as a participant in the World Solar Challenge® may be granted by the road traffic authorities of the Northern Territory of Australia after a successful road worthiness inspection. All entrant vehicles successful in scrutineering will be issued with a conditional certificate of registration and must comply with the provisions thereof.

4.13.2 Solarcars successful in scrutineering will be issued with a Northern Territory Government licence plate (Govt. fees apply), which must be displayed on the vehicle in such a manner as to be visible from the rear (material: aluminium, size:215mm x 97mm).

Solar Challengers should note that this is a requirement of the traffic authorities and is not negotiable.

4.13.3 All vehicles associated with the event shall comply with all road traffic laws.

4.13.4 All vehicles associated with the event shall be driven in a careful and courteous manner at all times.

4.13.5 Each team must have the ability to transport the participating vehicle and all associated equipment in the event of breakdown, poor progress, or if so directed by the Clerk of the Course.

*The minimum requirement is a suitable truck or trailer, which shall accompany the team throughout the entire journey. **If the car needs to be dismantled for transport it will be deemed 'withdrawn'.**(q.v. 6.3.12)*

4.14 Drivers/Passengers

4.14.1 The minimum number of solarcar drivers is two and the maximum number is four.

4.14.2 The official mass of each solarcar driver/passenger, as weighed at scrutineering, shall be 80 kg, including driving clothes and helmet.

4.14.3 If the mass of the driver/passenger is less than 80 kg, ballast will be added to make up the difference.

4.14.4 No credit will be given if the driver/passenger weighs more than 80 kg.

4.14.5 Correct ballast must be carried in the vehicle when driving.

4.14.6 Observers will check that the correct ballast is in place at each driver change.

4.14.7 Ballast will be provided by the Organisers.

4.15 Drivers and Entrants Qualifications

- 4.15.1** At scrutineering, all solarcar drivers must present a current and valid motor vehicle driver's licence recognised by Australian authorities.
- 4.15.2** All drivers shall have a minimum experience of 12 hours driving the solar car demonstrated by presentation of a logbook and signed declaration by Team Manager.
- 4.15.3** Only the nominated drivers may drive during competition hours.
- 4.15.4** Any participant under the age of 18 shall be duly vouched for.

Note that supervision and responsibility for persons under the age of 18 is vested in the relevant team manager. As a biennial event with an international team of volunteers it is not practical for the event to require a 'Police Check' for each member of staff, official or volunteer. Written permission to participate in the event, acknowledging these facts must be given by the parent or legal guardian of any proposed participant under the age of 18.

4.16 Administrative Checking

- 4.16.1** Place: Royal Darwin Showground (Foskey Pavilion) or such other place as determined by the Organiser.
- 4.16.2** Date and Time: Wednesday 21 October 2009 from 0800 hours.

4.17 Pre-Event testing

- 4.17.1** The Event will provide facilities for track testing immediately prior to the event.
- 4.17.2** Registered entrants must not drive their participating vehicle on the Stuart Highway in the Northern Territory between 1 September 2009 and the start of the event.

A condition of the Event permit issued by the Government of the Northern Territory is that Entrants will not drive or otherwise test their solar cars on the Stuart Highway in the weeks preceding the event. Arrangements may be made for vehicle use permits for other sections of road in the NT, which may include the Tablelands Highway between Cape Crawford and Barkley Homestead. The Organisers will arrange facilities for track testing at Hidden Valley Raceway in the days prior to the qualifying speed trials.

4.18 Scrutineering

Scrutineering will be in two parts: Static (to ensure regulatory compliance) and Dynamic (which will consist of speed, stability and brake testing)

- 4.18.1** Scrutineering will take place at the Royal Darwin Showgrounds (Foskey Pavilion) and Hidden Valley Motor Sport Complex and/or such other place and time as the Chief Scrutineer may direct.
- 4.18.2** Static Scrutineering will commence at 0800 on Wednesday 21 October 2009
Dynamic Scrutineering will be held on Saturday 24 October 2009
- 4.18.3** Specific scrutineering times for each team will be posted on the Official Noticeboard at the Hidden Valley Raceway at 1500 hrs on Tuesday 20 October 2009.
- 4.18.4** All entrant vehicles are required to present at the designated time, in a READY TO START condition. Vehicles unable to present at the designated time, or are not ready to start, may fail to qualify.
- 4.18.5** The Team Manager must attend all scrutineering stations.
 - 4.18.5.1** A Team manager not proficient in the Official Language of the event (q.v.2.6) must provide an interpreter.
- 4.18.6** Appropriate tools and manpower must be provided to facilitate the inspection of structural components.

Teams should note that mechanical inspection of structural components often necessitates dismantling the vehicle – this, together with reassembly, is the responsibility of the team.

- 4.18.7** No vehicle may be submitted for Dynamic Scrutineering (Speed, stability and brake testing) without having first passed Static Scrutineering (regulatory and NT Traffic Authority compliance).
- 4.18.8** No vehicle will be allowed to start the event until it has passed scrutineering. Any vehicle failing scrutineering will only be permitted to re-presented at the absolute discretion of the Chief Scrutineer.
- 4.18.9** Front and rear Escort Vehicles (detailed in regulation 6.4) shall be presented for inspection at the same time as the solarcar, or such other time as directed by the Chief Scrutineer.
- 4.18.10** Once passed scrutineering, no changes are permitted to the vehicle, its equipment or drivers.

With the exception of batteries, any component of the vehicle or its systems may be replaced with an identical component.

4.19 Grid Positions

- 4.19.1** Grid position will be determined by performance at the speed trials.

4.20 Compulsory Signs

- 4.20.1** The Organisers shall supply signs that carry event and event sponsor logos.
- 4.20.2** Unbroken, rectangular spaces, 200mm in height x 500mm in width must be provided on the right and left sides of the competing vehicle, clearly visible to a person standing 5m from the car

This is a mandatory requirement. If, in the opinion of the Chief Scrutineer, no suitable place is provided, the vehicle will not qualify for the event.

- 4.20.3** Unbroken space 200mm x 200mm must be provided on the right and left sides of the competing vehicle for the purpose of competition number, clearly visible to a person standing 5m from the car.

4.21 Competition Numbers

- 4.21.1** Solarcars will be allocated numbers upon receipt of entry.
- 4.21.2** Special requests for the use of particular competition numbers may be submitted. Allocation is at the sole discretion of the Organisers.
- 4.21.3** The WSC will provide competition number stickers. Alternatively, teams may paint the numbers onto the car. In this case, the numbers must be in a clear area of at least 200mm x 200mm and be clearly displayed on each side of the solar car. (q.v. 4.20.3). Competition numbers shall be in contrasting colours to their background and acceptable in every way to the Chief Scrutineer.
- 4.21.4** Competing vehicles must carry the national flag of the country of entry, fixed adjacent to the windscreen - minimum size 70mm x 40mm.

5. Insurance Cover

- 5.1** All Entrants will be covered by the Organiser's Public Liability policy.
- 5.2** Third Party Property insurance will be arranged by the Organiser on behalf of the Entrant.
- 5.3** Personal Accident insurance will be arranged by the Organiser on behalf of the Entrant.
- 5.4** Any insurance premiums in respect of 5.2 and 5.3 are payable by the entrant.
- 5.5** Comprehensive vehicle insurance is the responsibility of the entrant.

Note: Third Party Bodily Injury insurance is a component of Motor Vehicle Registration, a fee for which is payable to the Motor Vehicle Registration Authority (see regulation 4.13).

6. Conduct of the Event

6.1 The Start Line: The on-road component of the event will start in State Square, Darwin, at 0830, Sunday 25 October 2009

- 6.1.1 Each team will be issued with a 'start procedure sheet' containing detailed instructions, compliance with which is mandatory.
- 6.1.2 Each solarcar will be given a 'Start Time' by the Chief Timekeeper.
- 6.1.3 The Clerk of the Course will appoint a 'Starter' to control the grid, escort vehicle park and start line.
- 6.1.4 All solarcars must be in place by 0700 in starting grid position for final scrutineering. Any vehicle not present may have their start time amended.
- 6.1.5 The starting grid will be classed as 'parc ferme' between the hours of 0715 and 0830 or such other time as the Clerk of the Course may nominate.
- 6.1.6 Two (2) team members must stay with the car during this time to assist officials with inspections.
- 6.1.7 Front and rear escort vehicles must be in their designated places by 0800.
- 6.1.8 Any team (solarcar or escort vehicles) unable to meet its 'start time' will be allocated a new start time by the "Starter".
- 6.1.9 The Organisers reserve the right to change the time and/or place of the start.

6.2 The Course

- 6.2.1 The Challenge Class will be timed in a single stage between Darwin and Adelaide.
 - 6.2.1.1 Adventure Class entrants may be timed between Katherine and Alice Springs, and Alice Springs and Port Augusta.
- 6.2.2 Course notes will be provided to each entrant.
- 6.2.3 The selection (and cost) of overnight stops shall be the responsibility of the Entrant.
- 6.2.4 At overnight stops, the solar car and all other vehicles must be parked in such a manner that they, and all and any team activities, are conducted a minimum of 10 metres from the edge of the road.
- 6.2.5 If the Entrant's overnight camp is not immediately adjacent to the road, a marker cone must be placed on the roadside adjacent to the entry leading to the camp.
- 6.2.6 Any detour signs erected by the civil authorities must be observed and the correct route rejoined at first opportunity. The Organisers may change the course at any time.

6.3 Control Stops

- 6.3.1 Control Stops will be established at intervals along the route.
- 6.3.2 Control Stops may or may not be disclosed.
- 6.3.3 All vehicles will be required to stop at Control Stops and will be held by the control-point manager for 30 minutes. The Clerk of Course may direct any additional penalty time to be taken at a control point.
- 6.3.4 Observers may be changed and vehicles scrutinised at any time.
- 6.3.5 It is the responsibility of the team manager to check whether any updated information is available from the Control Stop Manager.
- 6.3.6 Teams must obey the directions of the Control Stop Manager.
- 6.3.7 During Control Stop time, teams may perform basic safety and maintenance tasks

with the agreement of the Control Stop Manager.

Entrants may perform any maintenance or safety checks on their vehicle during Control Stops. This includes checking and adjusting tyre pressures, terminal voltage and any tasks of cleaning or removal of debris. It does not include undertaking any repairs that involve dismantling or replacing components (including wheels/tyres). The array may be placed on a charging stand, as long as that does not render the vehicle incapable of being immediately moved or repositioned on request of the control stop manager.

- 6.3.8** No repairs or maintenance tasks that involve dismantling or substitution of vehicle components are to be undertaken (this provision includes wheel changing).
- 6.3.9** With the exception of those associated with a hand held multimeter or similar instrument, no cables may be connected to the solar car for any reason whilst the solar car is held at a Control Stop.

It is recognised that in the event of telemetry failure, entrants may wish to download data during a Control Stop. This is permissible under the following condition: Permission of the Control Stop Manager must be sought in advance and connection may only be made under supervision of the incoming observer, and the details written up in the Observer notes.

- 6.3.10** Control Stops will be opened in time to accommodate the leading vehicle, and remain open during competition hours. Closing times will be calculated on the minimum speed required to remain in the event rounded to the next nearest full hour.
- 6.3.11** Any team that has missed a Control Stop must reach the next Control Stop whilst it is open. Any team missing (or for whom it is clear will miss) two consecutive control stops must contact the Clerk of the Course.
- 6.3.12** The Clerk of the Course may direct a team to trailer their solar car forward to an open Control Stop. (q.v. 4.13.5)
- 6.3.13** Any team that has trailed their solar car forward may only rejoin the route under the direction of the Clerk of the Course.
- 6.3.14** Trailering may only occur during competition hours.
- 6.3.15** Teams who have not completed the full course will be listed in order of distance covered under solar power.

6.4 Escort Vehicles / Team Vehicles

- 6.4.1** Each solar car must, at all times when in motion on the highway, be accompanied by two escort vehicles (1 in front and 1 to rear).
- 6.4.2** At any given time, the rear escort vehicle shall be designated the primary escort vehicle, and shall have communications in accordance with Regulation 6.14.
- 6.4.3** Escort vehicles shall display amber (yellow) flashing lights visible from all directions from a distance of at least 200 metres in daylight conditions, these lights must be operating at all times whilst the vehicles are escorting the solarcar.

Note that low power xenon beacons designed as warning devices for industrial equipment are unlikely to meet the visibility requirement.

- 6.4.4** Whilst travelling on the open road, the primary escort (q.v. 6.4.1) must be no more than 3 seconds behind the solarcar, and must at all times maintain a minimum safe stopping distance relevant to the speed and conditions prevailing. The lead vehicle must, whilst travelling on the open road, maintain a distance no greater than 500 m, and no less than 2 seconds in front of the solarcar. The solarcar must be allowed a minimum safe stopping distance relevant to the speed and conditions prevailing.
- 6.4.5** A warning sign not less than 900mm x 300mm with black lettering on a yellow background, clearly visible from a distance of 25m, must be displayed on the rear of the rear escort vehicle, stating "CAUTION, SOLAR VEHICLE AHEAD".

- 6.4.6 All team vehicles must carry a sign, visible from 30m to the rear, stating the name of the Team.
- 6.4.7 Escort vehicles equipped with CB radio (qv 6.14.2) shall carry a sign, visible from 30m to the rear, advising the selected CB channel number in use.
- 6.4.8 A primary escort vehicle (qv 6.4.2) shall not be a bus, truck, large campervan or be towing a trailer.

The need for this regulation is based on the identification of the perceived hazard. If approaching traffic sees a large vehicle with a flashing light, the immediate perception is that that vehicle itself is the hazard, not the solarcar it is protecting. There have been a number of instances where members of the public have overtaken large rear escort vehicles and narrowly missed the (unseen) solarcar.

- 6.4.9 When stopped and parked, all wheels of all vehicles shall be clear of the road.

Wherever possible, the overnight rule which states that all team activity shall occur at least 10m from the edge of the road should be observed.

- 6.4.10 The Entrant shall provide the Organiser with a list of all vehicles associated with the team.

All team members and vehicles are required to be registered with the Organiser. Notwithstanding this regulation, the Organisers reserve the right to determine if any individual or vehicle is acting 'de facto' as a part of a team.

- 6.4.11 All vehicles associated with the Entrant, (with the exception of those identified in 6.4.1), shall keep a minimum of 500m from the competing solar car and each other whilst travelling on the open road, such that vehicles can be safely overtaken one at a time – NO CONVOYS.
- 6.4.12 All vehicles associated with the Entrant, (with the exception of those identified in 6.4.1), must not obstruct participating solarcars or escort vehicles.
- 6.4.13 A minimum of two drivers must be available for every vehicle associated with the entrant.
- 6.4.14 The Entrant shall be responsible for the actions of all crew and vehicles associated with the team.
- 6.4.15 Escort and team vehicles may be subject to scrutineering at any time during the event to ensure compliance with these regulations.

6.5 Timing

- 6.5.1 Timing is under the control of the Official Timekeeper assisted by Observers.
- 6.5.2 With the exception of Day 1 (see 6.1) the official start time each day is 0800.
- 6.5.3 With the exception of Day 1 the Official finish time each day is 1700.

*N.B. Day 1 (Sunday 25 October) will run from 0830 to 1730.
(i.e. all teams will finish at 1730, regardless of start time under 6.1)*

- 6.5.4 A penalty of 1 minute will be imposed for each minute taken past Official Finish Time, up to and including 1710 (1740 day 1). After 1710 (1740 day 1), each additional minute over will attract a two minute penalty.
- 6.5.5 Time penalties incurred in the manner described in 6.5.4 will determine an adjustment of the official start time the following day - eg: finish 1707 = (7x1) start 0807: finish 1712 = (1x10 + 2x2 = 14) start 0814 etc.
- 6.5.6 A vehicle starting before its official start time will be subject to penalty (as detailed in 8.1.10).
- 6.5.7 Solarcars must abide by the registration conditions imposed by the Department of Transport.

.i.e solarcars may not travel between sunset and sunrise or in poor visibility etc.

6.6 Convoys

- 6.6.1 Teams and escort vehicles may not drive in convoys (qv. 6.4.11) and must allow overtaking.
- 6.6.2 Any event vehicle being overtaken MUST give way. This includes escort vehicles.

6.7 Cattle Grids

- 6.7.1 Grids and/or stock control devices must not be covered.

6.8 Vehicle Movement

- 6.8.1 The participating vehicle may not, during competition hours, be pushed, towed or carried forward by another vehicle unless under the direction of the Clerk of the Course, or unless abnormal circumstances prevail.

It is the responsibility of the Entrant to operate their car safely at all times. The Entrant may take whatever action they consider appropriate to any given situation. (i.e. towing the car to safety) It is the duty of the Observer to record the details of such matters, and bring them to the attention of the Clerk of the Course.

- 6.8.2 Competing vehicles may be pushed on and off the highway for the overnight stop.
- 6.8.3 Push starting the car is not allowed.
- 6.8.4 Regenerative power systems must not be on when hand pushing or being towed under circumstances allowed in 6.8.2.
- 6.8.5 Slip streaming is not allowed (driving closer than 10m). Whilst travelling on the open road a solar car may be no closer than 10m to the vehicle in front unless overtaking.
- 6.8.6 Pressure-wave pushing is not allowed (driving closer than 10m). The rear escort vehicle is not allowed within 10m of the solar car whilst travelling on the open road.
- 6.8.7 Driving tests may be carried out by any qualified crew member from sunrise until 0800 and from 1700 until sunset.

6.9 Servicing

- 6.9.1 The batteries may never be removed from the Observer's control.
- 6.9.2 Any component, except batteries and the chassis, may be replaced at any time except during the mandatory time a vehicle is held at a Control Stop as detailed in 6.3.
- 6.9.3 With the exception of ambient temperature water,, sprayed from a hand held device, and then only whilst the solar car is stationary, cooling of solar cells from any external source is not permitted.

6.11 Intoxicating Substances

- 6.11.1 Australian civil law applies to drugs and to driving under the influence of alcohol. Drivers, team members and officials are to maintain a 0% blood alcohol level whilst engaged in any duties associated with the event.

6.12 Safety

- 6.12.1 The Entrant is responsible for the road-worthiness of its solar car. By submitting an entry, the Entrant declares the vehicle's integrity and suitability for the event.
- 6.12.2 The Entrant acknowledges that the scrutineering process will determine only whether the solar car complies with the Technical Regulations.
- 6.12.3 No warranty or representation, whether expressed or implied, is made in relation to the mechanical and/or systems roadworthiness of the entrant vehicle in providing this compliance with the Technical Regulations as specified above.
- 6.12.4 All solar cars and escort vehicles are operated and driven at the Entrant's own risk.

- 6.12.5 All solar cars and escort vehicles must be maintained in a safe, roadworthy condition and be operated safely and within the law at all times.
- 6.12.6 A team may be excluded from the Event at any time if the team, in the opinion of the Clerk of the Course, is operating its solar car or escort vehicles in an unsafe manner.

6.13 Safety Officer

- 6.13.1 Each team must provide a Safety Officer.
- 6.13.2 Each team must provide suitable and appropriate safety equipment, including (but not limited to): first aid kit, safety glasses and gloves for handling batteries, hazard warning cones, yellow warning flag, fire extinguishers, safety vests and a whistle. Such minimum safety equipment shall be located in the rear escort vehicle and be available for scrutineering as detailed in regulation 4.18.9
- 6.13.3 It is the Safety Officer's responsibility that safety equipment is correctly placed and appropriate warning is given to other traffic, as required.
- 6.13.4 Each team is required to have at least one member holding a recognised first aid certificate, current for the duration of the event.
- 6.13.5 Each team is required to submit a safety plan in accordance with regulation B.10.

Entrants should be aware that fatigue and dehydration are serious problems in this event. This is especially relevant to all drivers, particularly those of solar cars.

6.14 Communications

- 6.14.1 Each team shall carry a satellite telephone, and notify the Organisers of its number.
- 6.14.2 Every solar car shall have means of communicating with the primary escort vehicle, and demonstrate this capability at scrutineering.
- 6.14.3 The front and rear escort vehicles of each solar car must have a 40 channel UHF CB radio compliant with Australian Standards.
 - 6.14.3.1 The chosen channel number shall be displayed on the rear of the vehicle as detailed in 6.4.7.

UHF CB refers to equipment operating in the range from 476.025 MHz (ch 1) – 477.400 MHz (ch 40). 27MHz AM devices and hand held devices with fewer than 40 channels are not compliant with this regulation. Facilities for teams to hire the correct equipment will be available and further details will be provided to registered entrants. Enquiries concerning allowable frequencies for other equipment should be directed the Australian Media and Communications Authority <http://www.acma.gov.au>

7. Observers

7.1 Appointment of Observers

- 7.1.1 An Observer shall be appointed by the Organisers to travel with each competing team.
- 7.1.2 Observers will be considered as Judges of Fact.
- 7.1.3 Observers may be changed between Entrants throughout the Event.

7.2 Observers' Responsibilities to the Entrant

- 7.2.1 To record their name and the time period of their observation duty.
- 7.2.2 To record the start and stop time, distance covered each day, and all other incidents.
- 7.2.3 To be satisfied that batteries cannot be touched between sunset and sunrise.

- 7.2.4 To notify the Clerk of the Course at the earliest opportunity if a battery has been changed or a battery seal broken, or if any breach of regulation has occurred.
- 7.2.5 Observers may not interpret regulations or give advice to Entrants.

7.3 Entrants' Responsibilities to the Observer

- 7.3.1 To assist the Observers in their duties at all times.
- 7.3.2 To provide reasonable food and water for the Observer at least 3 times a day.
- 7.3.3 Never to leave the Observer alone with the car.
- 7.3.4 To send for assistance from the Organiser, or call in results if requested by the Observer.
- 7.3.5 To provide a proper seat in the primary (rear) escort vehicle.

It is expected that the Entrant will allocate the front passenger seat of the primary escort vehicle to the Official Observer. This includes fair and reasonable space, with, for example, the footwell not being filled with computer equipment such that the passenger space is restricted.

- 7.3.6 To provide space for the Observer's luggage in the same vehicle as the Observer.
- 7.3.7 The arrangements for hosting the Observer must be declared at Scrutineering.

8. Penalties and Protests

8.1 Entrants committing the following offences may be subject to a time penalty determined by the Clerk of the Course.

- 8.1.1 Obstructing an overtaking vehicle.
- 8.1.2 Slip streaming, hand pushing or pressure wave pushing.
- 8.1.3 Failure to follow the route instructions.
- 8.1.4 Failure to observe a request by Police or Officials.
- 8.1.5 Wilful damage or interference to property.
- 8.1.6 Failing to get off the highway when stopped.
- 8.1.7 Failure to stop at a control.
- 8.1.9 Exceeding any posted speed limit.

8.2 In normal circumstances, time penalties shall be served on the day of issue and prior to crossing the finish line.

Penalties will be issued by the Clerk of Course, who may depute any other official to serve the notice to the Entrant. Time penalties will normally be served on the day of issue, by extending the time spent in a control stop. The Clerk of the Course may impose other arrangements appropriate to particular circumstances.

8.3 Exclusion from the Event

Entrants committing the following offences may be liable to exclusion:

- 8.3.1 Wilful obstruction or aggressive driving.
- 8.3.2 Replacement of battery without permission.
- 8.3.3 Removing battery from Observer's care.
- 8.3.4 Charging of batteries from any source other than that scrutinised.
- 8.3.5 Failing the stability test.
- 8.3.6 Inability to maintain minimum speed.

- 8.3.7 Carrying or towing a competing vehicle.
- 8.3.8 Wilful disregard of the regulations and the spirit of the event.
- 8.3.9 Running without rear escort vehicle as described in regulation 6.4.2.
- 8.3.10 Misrepresentation.

Entrants who have been excluded for inability to maintain minimum speed may trailer their solarcar to the finish line, and take part in the display and closing ceremonies.

8.4 Protests and appeals

- 8.4.1 Any protest must be lodged with the Clerk of the Course (or appointed delegate) in writing, within 24 hrs of the incident giving rise thereto. A protest fee of AU\$100 will apply.
- 8.4.2 Any decision of the Clerk of the Course may be appealed to the Stewards by lodgement with the Organisers of a written 'notice of appeal' outlining the grounds for the appeal, within one hour of the handing down of the CofC decision giving rise thereto. The decision of the Stewards is final. No correspondence will be entered into.

The Stewards will consider all protests at the earliest opportunity.

9. Determination of Winners - Finishers

9.1 In each class, the winner will be the first solar car to have completed the course in accordance with these regulations, any further regulations, and the directions of the Clerk of the Course.

- 9.1.1 To be classed as a finisher, a vehicle must have completed the entire course within the time parameters allowed.
- 9.1.2 The Organisers will designate a fixed point as "Finish of Timing" in order that Entrants are not in a competitive situation in the Adelaide Urban area.
- 9.1.3 The solar car must proceed to the Finish Line under its own power to complete the course
- 9.1.4 The route between the timing point detailed in 9.1.2 and the Finish Line will be deemed a 'transport stage'.

In the event of two or more Entrants being in the transport stage at the same time, they must present themselves to the finish line in the order by which they crossed the 'finish of timing', unless an Entrant's solar car ceases to function. The finish line will close at 1730. In the event that an Entrant is caught between "Finish of Timing" and the "Finish Line" they should inform the Clerk of the Course and make overnight arrangements appropriate to the circumstances, (e.g. the Observer may mark the position as normal, and the team may load their car onto a trailer and return to complete the course from 0800 the following day.

9.2 Provisional Result

- 9.2.1 The progress of solar cars may be publicised during the event. These results may not include all penalties and will, therefore, not be accurate and final.

9.3 Final Result

- 9.3.1 Results will not become final until the Stewards have made a determination on any protest lodged in accordance with regulation 8.4.2

10. Winners and Finishers

- 10.1 The winning team will make itself available for a press conference if so required.
- 10.2 Finishing vehicles shall be made available for public exhibition up to the time of the prize giving ceremony or such earlier time as the Organisers may determine.

11. Prizes and Awards

- 11.1 Trophies will be awarded to each class winner.
- 11.2 Certificates will be provided to all finishers.
- 11.3 Other Special awards and prizes will be announced in further regulations.

12. Event Advertising and Publicity of Results

- 12.1 All advertising, sales promotion and publicity material produced by, or in connection with, the entrants or their sponsors, concerning or referring to the Event, shall refer prominently to the Event by the correct title as defined in Regulation 1, and all entrants shall, by entering the Event, specifically agree to abide by this Regulation.
- 12.2 By entering the Event, the Entrant agrees to the free use of any names, photographs (or graphic interpretation thereof) of their team, vehicles and equipment in any publicity material that may be issued by the Organisers or official Sponsors of the event (q.v 10.1 / 10.2).

Appendix 1

Schedule of regulations for which a 10 minute penalty can be imposed by any 'Red Shirt' official	
Offence	As defined by regulation:
Obstructing an overtaking vehicle (solarcar & escort)	8.1.1
Obstructing an overtaking vehicle (team vehicles)	6.4.12
Team Vehicles travelling in convoy	6.4.11
Failing to get off the highway when stopped	8.1.6
Overnight activities too close to road <10 mtrs	6.2.4
Exceeding any posted speed limit	8.1.9
Driving without a safety belt	B.3.2
Driving without a helmet	B.3.5
Repairs (inc.wheel changing) during Control Stop	6.3.8
Starting prior to due time of departure	8.1.10
Running without Escort Vehicles	6.4.1
Escort Vehicles running without flashing lights	6.4.3
Securing egress hatches with adhesive tape	B.4.4

Updates and Bulletins

This version issued May 2008	
1.3 proofed for distribution 1 June 08.	
1.4 pre-release with minor revisions 3 June 08.	
1.5 Release copy 5/6/08.	
1.6 Incorporating Further regulation Bulletin 2009/2 (change of management) 2009/3 (change of date) and 2009/4 (change of entry fees) Version release date 18 November 2008.	
1.7 Formatting changes only, no changes of regulations Version release date 24 November 2008.	