SYNOPSIS OF RACE RULES AND CAR SPECIFICATIONS, 2008.

The following is for quick reference only. Make sure you read the regulations fully and carefully for the complete details. There may be things missed out.

Changes for this year are in **bold type**.

Everything to do with the car must with the idea of seeking efficiency and excellence.

There must be a separate team member for each car and teams cannot enter more than one car.

Teams must prove that they built the car in 2008 and didn't bring back last year's car. If a school has several cars they must all be different.

If teams first apply they may be able to do a web page rather than a poster.

You can only get one panel scrutineered. If it becomes damaged or faulty you may be allowed to replace it but the replacement must be tested first.

You are not allowed to use anything other than water ice to cool panels. Liquified gases and large quantities of solvents are totally prohibited.

You need to cover your solar panel at the start of races.

You can stop your car any way you like as long as it doesn't affect the other car in any way.

You cannot go and buy a commercial model car and race it.

The car cannot be bigger than 650mm long, 320mm wide and 180mm high. **It must not extend more than 200mm from the centre of the guide rail.**

You can only use commercial silicon solar cells. The solar cells and their mounting frame cannot form any other part of the car and must be easily removable from the car. If your panel isn't flat you must be able to make it basically flat. All your panel wiring must be visible and **it must use copper or tinned copper conductors**. You must have a diagram and provide connections to allow easy measuring of the panel. **You cannot have any switches or other devices on the panel.** Don't exceed 25 volts or 2 amps. **The power might be measured at 50% Sun and doubled. Do not artificially lower the Fill factor of your panel**. The power of your panel will be corrected to 25 degrees. The maximum power allowed is 12 watts.

The required total panel weight is worked out by

$$\text{Weight(gms)} = 175 \times [\text{Power(watts)} - 6] + 600$$

If your panel is too light you must carry the extra weight as ballast. The minimum allowed weight is 600gms. **You can't call any other part of the car ballast**.

You cannot use anything to store energy (batteries etc.)

You must have a proper switch marked ON and OFF in an accessible location. **The switch cannot be on the solar array**.

All your car wiring must be visible.

You can use any motor you like but you must tell the scrutineers what it is for their records.

You can use any number of wheels you like but they cannot be sharp edged.

You must use a pair of guides at the front of the car that go outside the guide channel.

Your car must have a frame or a chassis independent of the solar array.

Your car has to have a space behind the cabin to fit two one litre milk cartons, one sideways, beneath your solar array. **The sides and the floor of this space must have no holes or cut outs. The space may be larger, but…… You cannot carry other bits of the car in this space.** You can carry your ballast here. The floor (and the rest of the car) has to be able to support the two full cartons standing up on it.

You need side panels, one on each side, at least 75mm high by 120mm long and flat within 20mm vertically and 15mm horizontally.

You need a solar panel cover for use at the start of races.

You must have your School and Car Name in letters at least 10mm high, visible when racing but not on the Side Panels.

You car must have a fully enclosed and sealed compartment at the front with space for a 60g egg 'driver'. The top 25mm of the egg must be visible from straight ahead and to 90 degrees to each side through a transparent windscreen with 10mm clearance over the full visibility arc. There must be 3mm clearance over the top of the egg. You are allowed two 4mm wide frames in the windscreen but you cannot use adhesive of any sort on the egg. **The egg cannot wear a seat belt.**