



# USQ Queensland Human Powered Vehicle *Super Series*

## 2020 Racing Rules

UNIVERSITY  
OF SOUTHERN  
QUEENSLAND



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# 1. Overview

Human Powered Vehicle Racing is held with the highest regard to good sportsmanship by all persons involved. Many teams compete for the thrill of racing a vehicle that they have designed and developed. Others race to challenge themselves mentally and physically and to grow as a person. Many schools enter teams of a highly competitive nature that train hard and race to win and relish the very high levels of competitive racing that this sport offers school students.

Queensland's Human Powered Vehicle racing season is purely for school students to come together and race their vehicles in a safe and controlled environment being able to push themselves and their vehicles to the limit of fun and healthy racing competition. The mission of the Queensland HPV Super Series is to see that the racing environment stays fun and healthy for all involved and will only expect the highest standard of sportsmanship from the drivers, team managers, officials, parents and spectators.

## 2. The Race

### 2.1 PRE-RACE BRIEFING

All team members and managers are to attend the pre-race briefings. Teams not represented at the briefings may not be allowed to race.

### 2.2 GRID POSITION, ASSEMBLY AND WARM-UP LAP **\*NEW\***

Race coordinators can use the following methods to line up race grid positions: Timed practice laps, drag race sprints, Christmas tree reaction time, or a random number draw. Vehicles will be called to the starting grid prior to official start. Vehicles not in the assembly area when called up will lose their position and will be required to start from the rear of the grid. Additionally, a warm up lap may be utilised with the aid of a Pace vehicle. A rolling start may also be utilised as an alternate starting method. Each event will post an Event Manual prior to the race indicating what methods will be utilised at that event.

**ONLY 1 TEAM MEMBER IS TO ASSIST THE RACE VEHICLE WITH LINING BACK UP ON ITS ALLOCATED GRID START POSITION.**

### 2.3 RACE START

The race will be started with the dropping of the National flag. Any alterations to this procedure will be mentioned in the appropriate Race Event Manual.

### 2.4 RACE FINISH

The race will conclude with the waving of the black and white chequered flag after completion of the set race distance (a time allocated by each event organiser). The winner will be determined by the laps completed at the end of this time. Where a vehicle has started a lap prior to fall of the flag, that lap must be completed.

## 2.5 SHORTENED RACE

In the event of inclement weather or other serious factors, the Race Director may at their discretion shorten the race. The winner will be the team that has completed the most laps when the race is stopped.

## 2.6 LAPS COMPLETED

When multiple vehicles have completed the same number of laps at the fall of the chequered flag, the finishing position will be determined by which vehicle crossed the finish line first.

## 2.7 TECHNICAL FINISH **\*NEW\***

If the electronic lap counting system used throughout the race incurs technical issues, resulting in questionable racing outcome results, and after all methods of manual lap tracking has been incorporated, it is at the discretion of the **Race Coordinator** to make a “Best Judgement” on the final placements. This ruling is final.

# 3. Flags

- **Blue** – Vehicle/s close behind you. Maintain position and speed to allow for a clean overtake.
- **Yellow** – SLOW DOWN! Danger or track obstruction in this area of the track. No overtaking when a yellow flag is displayed. Pass the point of danger with care, then continue racing.
- **Red** – Extreme danger. All vehicles are to safely come to an immediate stop. Follow the directions of the Race Director and Flag Marshals.
- **Black** – Waved at your vehicle. Stop in the pits on the next lap. Pit marshals will notify you of your offence and penalty.
- **Green** – The track is clear for racing to continue.

# 4. Track Conduct

## 4.1 POOR LANGUAGE

Any driver identified as using offensive language will be sent to the pits for an immediate driver change. Continued reports of offensive language will result in the offending driver being removed from the team for the duration of the race without being replaced by a pit crew member. Repeated offences at different tracks will result in a permanent ban of that member from future QLD HPV Super Series Events.

#### 4.2 SLOW VEHICLES RACING LINE

Vehicles must hold their racing line where possible, unless overtaking another vehicle. SLOWER vehicles should keep to the left wherever practical and must not deliberately block faster vehicles or change direction unnecessarily.

#### 4.3 OVERTAKING

Vehicles must only overtake when practical and safe. **Drivers must sound their horn and check their mirrors before overtaking.** It is the responsibility of the overtaking vehicle to ensure that the overtaking move is carried out without endangering other competitors. The onus is on the overtaking vehicle to do so safely.

- ❖ **The (slower) HPV being overtaken still has *Right of Way* and track position and it is the responsibility of the (faster) overtaking HPV to perform the overtaking action SAFELY. (This means the slower HPV does NOT have to get out of the way of the faster HPV!)**

#### 4.4 CONTACT BETWEEN VEHICLES **\*NEW\***

Contact between vehicles is to be avoid at all times. While small knocks and taps between vehicles is part of racing, aggressive or targeted collisions will not be tolerated. Penalties will be applied for aggressive behaviour. Where an aggressive act causes the retirement or extended repair time for the receiving vehicle, the aggressor's vehicle may be stopped at the Chief Marshalls position until such time as the vehicle being repaired is returned to the track. A contact causing a roll over may imply a penalty for the offending vehicle. **Repeated occurrences by the same team WILL incur timed penalties without a submitted protest.**

#### 4.5 CLEARANCE

An overtaking vehicle must ensure a clearance of at least 1 metre before crossing in front of the slower vehicle. Cutting in or leaving insufficient clearance is not allowed.

#### 4.6 SLIPSTREAMING

Slipstreaming closer than 1 metre is not allowed. To ensure safety is not compromised, drivers must maintain a gap of at least 1 metre between vehicles at all times. Dangerous slipstreaming will be penalised.

#### 4.7 SAFETY CAR ON TRACK

If the safety car is on the course, but is NOT showing flashing lights, or yellow flags are NOT waved or "Safety Car" sign is not shown, all race vehicles are free to overtake and continue racing as normal.

#### 4.8 SAFETY CAR IN USE

If the safety car is on the course with flashing lights, yellow flags are being waved or "Safety Car" sign shown, all vehicles must form a single file behind the safety car. No overtaking is allowed on any part of the course. The safety car will be positioned in front of the current race leader. ***A penalty for overtaking under a yellow flag or safety car will be applied without warning.***

#### 4.9 PITTING DURING A SAFETY CAR PERIOD

During safety car deployment, vehicles may enter pit lane. However, as a safety precaution, vehicles will only be allowed to exit pit lane and join the end of the queue as the field is passing by.

#### 4.10 INCAPACITATED DRIVERS

Incapacitated drivers may receive assistance and medical attention wherever necessary, from track marshals or any other person, without jeopardising their team.

#### 4.11 RIGHT OF WAY

Competing vehicles have right of way over disabled vehicles.

#### 4.12 DIRECTION OF TRAVEL

Under no circumstances is a vehicle to be driven or pushed on the track in the opposite direction to racing. No vehicle shall enter the pits via the pit exit lane or leave via the entry lane.

#### 4.13 DEVICES

Mobile phones, iPods or other such devices for entertainment purposes are not permitted. However mobile phones containing tracking software and two-way radios ARE permitted for tracking and communication purposes.

#### 4.14 SEAT BELTS **\*NEW\***

All drivers shall wear a correctly adjusted seat belt or harness when on the track during practice and the race. **Padded back packs should be used for shorter drivers instead of foam seat inserts, unless the seat inserts are securely mounted to the seat.**

#### 4.15 IMMOBILISED VEHICLES

If a vehicle breaks down on the track, the driver is to move the vehicle to the side of the track immediately. If the driver can repair the fault by themselves, i.e. a dislodged chain, then the vehicle can return to the track and continue racing. If the vehicle needs assistance from team members then the vehicle must return to the pits area prior to any work being carried out on the vehicle. This includes vehicles that have a blown tyre ANYWHERE on the circuit.

## 5. Pit Procedures

#### 5.1 PIT LANE

The Pit Lane is the designated pathway/track/road adjacent to the racing track for the access to team pits bays. This is indicated by either hay bales, water barriers, tyres or a combination of all.

#### 5.2 PIT BAY **\*NEW\***

The Pit Bay is the allocated section of track adjacent to your pit area. A maximum of 3 people, in addition to the incoming and outgoing drivers, shall attend a vehicle in the pit bay. **Pit bays and pit lane are to be clear of all team members when not actioning repairs or a driver change.**

### 5.3 SPEED IN PIT LANE

ANY movement throughout pit lane can potentially be dangerous for all team members and supporting staff. To reduce the risk of injury the maximum speed in the pit area is 10 kph, (a quick walking pace). Some circuits stipulate between a fast lane (10kph) and a slow lane (5 kph). This is to allow for a smooth constant drive, through the pits. Speed guns may be used at some events to check vehicle speed. Vehicles that deliberately slow or hinder the progress of another vehicle may incur a penalty. Vehicles speeding in pit lane may also incur a penalty.

**There is NO overtaking in the pit lane.**

### 5.4 PIT LANE ASSISTANCE **\*NEW\***

Assistance may be provided to the driver/vehicle within pit lane by a pit crew member pushing the vehicle back to the pit bay only if the driver is in distress/fatigued, if the vehicle is heavily damaged or in some cases, the pit lane entry is on an uphill slant making the task harder for fatigued drivers. This assisted speed is still to be only a quick walking pace. Teams seen abusing this rule will receive a 5 lap penalty.

### 5.5 DRIVER CHANGEOVER

With the exception of incapacitated drivers, all driver changes shall occur in the designated pit bay. Any team found to be changing drivers outside of the pit area will result in a 5 lap penalty.

### 5.6 STOPPING IN PITS **\*NEW\***

Vehicles shall come to a complete halt in the pit bay under the effect of the vehicle's own braking system. Stopping with the assistance of others is not permitted. Vehicles shall be stationary prior to unfastening seatbelts. *Offending vehicles may be asked to demonstrate effective braking.* **Stopped vehicles are NOT to block the pit lane for other vehicles to pass safely.**

### 5.7 DRIVER REFRESHMENT

For safety reasons, driver food and drink replenishment shall only take place when the vehicle is stationary in the pit bay. Penalties may apply for a breach in this rule.

### 5.8 STATIONARY VEHICLES

Stationary vehicles shall give way to moving vehicles.

### 5.9 VEHICLES LEAVING THE PITS

Vehicles leaving a team's pit bay must give way to vehicles in the pit lane if there is a risk of collision or contact. The vehicle already in the pit lane has right of way. Pit crew may only use a single step to help push a vehicle out of the bay, additional aid is not permitted.

### 5.10 REPAIRS

Teams are encouraged to be completely self-sufficient and bring their own tools, parts and materials necessary to carry out any repairs. Minor maintenance and running repairs may be carried out in the pit bay and team support area, however, welding or grinding etc. must take place in the workshop

facility or designated repair locations laid out in the Event Manuals. Major repairs carried out during the event must be re-scrutineered by race officials prior to the vehicle re-joining the race.

### 5.11 REMOVAL OF COMPONENTS

If any component or any part of the structure of the vehicle is removed during the race, race officials must certify that the vehicle continues to comply with vehicle specifications before it will be permitted to continue racing.

## 6. Conduct & Incidents

The highest standard of conduct, sportsmanship and manners (*on and off* the track) is required by all people associated with the event and each team. Impolite/ abusive/ inappropriate behaviour/conduct or language is unacceptable. And may lead to a team being disqualified from the event.

### 6.1 TEAM MANAGERS REPORTING INCIDENTS

With regard to infringements of these competition rules, any complaints from teams or support groups must come through the team manager **ONLY**, to the Race Director or Chief Marshall on the official Protest form no later than 30 minutes after the incident.

### 6.2 TRACK MARSHALS REPORTING INCIDENTS

Marshals are to make verbal incident reports to the Chief Marshall. These will be followed up with a written report if any action is required.

### 6.3 CONSEQUENCES

Penalties for infringements may take the form of a timed stoppage, loss of laps, disqualification of a driver or disqualification of a team from competition. Loss of points from the Championship may also be considered.

### 6.4 PENALTIES

Infringements of the rules **WILL** be dealt within the following ways:

1 <sup>st</sup> offence:	Warning
2 <sup>nd</sup> offence:	Time penalty (up to 5 min), depending on infringement
3 <sup>rd</sup> offence:	Lap penalty (up to 5 laps), depending on infringement
4 <sup>th</sup> offence:	Withdrawal from prizes and championship points
5 <sup>th</sup> offence:	Exclusion of individual drivers (no substitute allowed), or vehicle.

Serious or continual offences may result in the entire team being disqualified and or loss of championship points. All Official Protest forms are to be forwarded to the QLD HPV Super Series Admin after the event for tracking of unwanted conduct within the sport.

**Loss of Series points is determined by the QLD HPV Super Series Committee only.**

## 6.5 INFRINGEMENTS

Teams found to be in breach of any Series rules, **WILL** incur a penalty. Team behaviour deemed not to be in the spirit or best interest of the Event **WILL** incur penalties. The Chief Marshal, in conjunction with the Race Director, will receive and investigate reports of dangerous driving. The Race Director has the discretion to apply team penalties for any conduct considered not within the spirit of the Event or that brings the Event into disrepute. Decisions of the Race Director will be final. Team managers will be informed of any penalties imposed.

## 6.6 REPORTING PROTESTS

When a team believes, on reasonable grounds, that another competitor has contravened the rules, they may lodge a written protest with the Race Director. The procedure is as follows:

- Team Manager is to correspond with Chief Marshall about the potential infringement. The Chief Marshal will advise of a team's options to resolve.
- Completed forms must be lodged with the Race Director via the Race admin office within 30 minutes of the alleged incident.
- Decisions of the Race Director will be final and the relevant team managers will be informed of any penalties imposed.

**NOTE: Due to the number of vehicles sharing the circuit it is likely that contact will occur. This may not be intentional and not worthy of protest. Repeated frivolous protests will not be accepted.**

# 7. Race Assistance

## 7.1 TIMING

- Two systems of scoring may be used – electronic timing and manual lap counting.
- Electronic timing from a sensor placed on a bracket on the HPV to a loop embedded in the track's surface.
- The sensors will be issued prior to the race start and returned **immediately** after the finish to the central collection point by the Team Manager. The sensors are individual and **MUST NOT** be interchanged between HPVs.
- Failure to return a sensor will result in a \$500 replacement fee (each).
- For Manual Lap Counting - recorders should have one person writing the numbers (**not** looking at the race), one calling the numbers and one observing as well as listening to the numbers being called. (Swap positions reasonably frequently to prevent mistakes. Team members may be approached at different venues to assist with this.

## 7.2 FLAG SIGNALS & MARSHALLING

- Each Official/Marshal represents a competing school and therefore is crucial to the success of this event. It is not only the Event Committee but also you, the Official or Track Marshal, that will control the success or otherwise of this event. Please be professional, equitable and sensible about the decisions you make when conducting yourself as an official of this event.
- Radios will be available to link each Marshal with the race headquarters/event committee. Radios should be used only for official communications.
- It is expected that each Marshall will take up his/her position at the correct time.
- If an Official/Marshal does not take up his/her position within 5 minutes of the designated time, the departing Official/Marshal should report via radio to the race headquarters that they have not been relieved.
- \*NEW\*** • It is expected that Track Marshals will act in a non-biased manner, lend assistance to all drivers in need, conduct the duties of a track marshal to the best of their abilities, stay vigilant of the environment around them and have a strong working knowledge of the current seasons Racing Rules Document. **School Managers are responsible for the actions of all adults conducting the marshalling duties for that school. Students are not permitted to act as a track marshal during the race, but may assist Marshalling points with accident situations only.**
- Marshals will be readily identified by the wearing of fluorescent waistcoats. Drivers must respond to any orders given by Officials.

## 7.3 SCHOOL/TEAM MANAGER

- Each school will have a School Manager who is responsible for the conduct of their team/s and ensuring rules are followed. This person is to wear an allocated School manager's lanyard or coloured vest at all times, depending on which event attending.
- \*NEW\*** • The **School Manager** must be a **teacher or teacher aide (not a parent)** from the school of entry and who is responsible for every member of their school during the entire event. Only this person can approach the Race Coordinator or the Chief Marshall regarding a racing incident. This person is readily recognisable by wearing the QLD HPV Super Series Lanyard at ALL events.
- \*NEW\*** • It is the **Team Manager's** responsibility (this can be any adult) to ensure that all team members are able to competently and safely fulfil their designated role prior to, and during all aspects and activities of each racing event.
- \*NEW\*** • Every person in charge of a school HPV racing team is to be competent, at managing their students, both behaviour and wellbeing. Must have a complete understanding of the Queensland HPV Super Series racing rules and be fully aware of why teams may be penalised. Additionally, have a working knowledge of the racing vehicle in regards to safe and unsafe conditions after a vehicle incident for the continual safety and wellbeing of your drivers.

- It is the Team Manager's responsibility to have a thorough knowledge and understanding of the Event Manuals and the QLD HPV Super Series Rules and Regulations.
- In the event of the School Manager requiring a period of absence, a competent stand-in **Teacher/Aide** must be appointed and the Event Committee notified.
- **\*NEW\*** Since the School Manager is the contact between Event Committee and their respective racing teams it is essential that the School Manager / Acting school Manager remains at the venue and contactable at all times. If the school manager cannot be quickly located by the Race Officials in regards to an issue with one of their race teams or vehicles, the race Coordinator will carry out penalties or infringements without notifying the school manager.

## 8. Event Committee

Each of the eight racing events in the Queensland Human Powered Vehicle Super Series are run and controlled by a separate Event Committees formed to organise that particular race.

### 8.1 RIGHTS

The Event Committee reserve the right to:

- Abandon, cancel, postpone or modify the competition in the case of unforeseen circumstances that may include poor or dangerous weather conditions.
- Exclude, disqualify and otherwise penalise any entry, gaining, in the opinion of the Event Committee, unfair advantage as a result of a breach of these regulations, hindrance of other competitors, departure from the normal course or any act capable of misrepresenting performance

### 8.2 INDEMNITY

- The Event Committee, The hosting organisation, Education Queensland, Event Sponsors and the QLD HPV Super Series Coordinators accept NO liability for any articles that may be lost, stolen or damaged during the event. They also accept NO liability for any bodily damage or injury sustained by officials, participants, spectators or members of the public during or in connection with the event.
- Insurance cover for students undertaking physical activities and physical education, particularly contact sports, carry inherent risks of injury. Parents are advised that the Department of Education Training and the Arts does not have Personal Accident Insurance cover for students. Education Queensland has public liability cover for all approved school activities and provides compensation for students injured at school only when the Department is negligent. If this is not the case, then all costs associated with the injury are the responsibility of the parent or caregiver. It is a personal decision for parents as to the type and level of private insurance they arrange to cover students for any accidental injury that may occur.

- State School teams are invited to take out their own additional property and/or personal accident insurance.
- **Non-State School teams MUST confirm that their insurance arrangements will cover their involvement in this event. The Event Committee requires proof of Public Liability Insurance before a Non-State School team is granted entry to the event. The copy of Public Liability Insurance must accompany each Non-State School's Entry form.**

### **8.3 PARENT/GUARDIAN PERMISSION & STUDENT MEDICAL DETAILS**

ALL Students MUST have parent/guardian consent to race AND be filmed or photographed by the media. Copies of Parent/Guardian Permission and Student Medical Details **must** be held on site by each respective Team's Supervising Teacher and be made available to the Event Committee and Emergency Services personnel as required.

### **8.4 RISK MANAGEMENT SYSTEM**

Each race event held in Queensland is conducted by the relevant race committee for that region. Each Event Committee is responsible for supplying all the relevant documentation for that particular event including insurance details and risk assessment.