

MotorSport New Zealand

Code of Practice

Fuel

FUEL HANDLING CODE OF PRACTICE UPDATE DECEMBER 2023:

MotorSport New Zealand would like to issue an update on the recent changes to the Code of Practice Fuel, commonly referred to as “Refueling Regs” or “Fuel Regs”.

We first want to acknowledge that there are some misunderstandings around the updates to the document and subsequent regulations. We have also received a tremendous amount of feedback and as such will be reviewing these.

THE BACKGROUND:

These guidelines were first issued in 2006 and have been updated periodically since. The purpose of this Code was to provide a framework to help ensure safe fuel handling practices following a serious fire at an event.

Fuel is an incredibly dangerous substance and can cause serious injury or worse even without being ignited. The most recent update to this Code was instigated following a rise in the number of unsafe and unacceptable fueling practices seen at some events. Whilst most people were safely handling fuel, the number of occasions where people have been seen refuelling dangerously could not go unaddressed.

Our officials have witnessed refuelling while another crew member welded parts of the car, neighbouring competitors were grinding with sparks heading towards the open fuel tank, refuelling cars whilst on stands at unsafe angles on the sides of busy main roads, the list goes on.

This Code was clearly not being followed by all, despite repeated requests and attempts by officials to engage and educate both competitors and crews over a long period of time. It was clear it needed to become enforceable in order to be effective.

WHAT HAPPENS NOW:

MotorSport New Zealand, in consultation with our Advisory Commissions, will now review this Code of Practice taking into account the feedback we have received from competitors, crews and organisers.

Once this review is complete, a new version of this Code will be released along with an enforcement date for any new regulations.

Until such time, the current regulations in this Code are strongly recommended, and officials will be advised to educate competitors on safe fueling handling practices.

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1. Purpose of the Document

This document is for Motorsport Event Organisers, Competitors and their Teams, Officials and Volunteers.

- It provides information to people organising, managing and working on events.
- Detailed information is provided for the proper and secure handling and storage of motorsport fuels in various events, including sprint and endurance circuit Races, Rally events and ClubSport events that involve the refuelling and storage of fuel.
- It explains how to control the risks associated with the storage and handling of fuel for those involved in the event, including spectators.
- This document should be read in conjunction with the [WorkSafe document Storage and Handling of Fuel at Motorsport Events](#).
- Venue owners and those that organise events on a reward basis, thus creating a “Place of Work” with employees, should adhere to the WorkSafe document in its entirety.
- Transporting of fuel is covered under the Land Transport Rule: Dangerous Goods 2005. The New Zealand Transport Agency website has information on how these rules apply to you.

FUELLING AT A SERVICE STATION VERSUS AT A MOTORSPORT EVENT

It is commonly asked why motorsport events need additional safety equipment and procedures when refuelling compared to commercial fuel stations. Some key points on the differences between the two refuelling operations and environments are below:

- There is an increased risk of static electricity charges at a motorsport event. Petrol Stations are designed in such a way as to ensure users take very deliberate actions such as having to touch conductive surfaces to release any static charges they have built up on them.
- When moving to exit your vehicle, your clothes often create a static electricity charge. Actions such as touching the fuel pump, grabbing the nozzle and touching the nozzle against your vehicle’s fuel filler all help dissipate any static charges before fuel is presented.
- Commercial Petrol Stations have extensive earthing systems built into the pump, tank, hose and nozzle to help reduce the likelihood of static discharge.
- Commercial Petrol Stations have over-fill protections to ensure fuel is not spilt in case of an overfill.
- Commercial Petrol Stations have a closed containment system meaning fuel is stored far from refueling activities and fuel is never exposed outside of the refueling system.

- Commercial Petrol Stations provide a flat, level and controlled environment for refueling.

Motorsport events often do not have these additional protections in place to prevent refuelling incidents. This is what the Code of Practice – Fuel seeks to address and why we need to have some additional controls in place at our events to firstly try to prevent with any potential incident and secondly minimise the impact of an incident should it occur.

2. Key terms used in this document

TERM	DEFINITION
Sprint Race	Motorsport competition where the cars are expected to complete the prescribed distance without needing to refuel. Refuelling during the race isn't allowed.
Endurance Race	A race defined as being sixty (60) minutes or more in duration
Rally events	An event held on a closed, public road, consisting of a series of competitive stages alternated with touring stages. Rally events vary between 1-to-4 day events and can have up to 130 cars entered.
Pit area	A pit area is the area occupied by one competing vehicle either in a <u>permanent garage</u> , <u>temporary garaging</u> or <u>in the open</u> . If two or more competing vehicles are occupying a common space the <u>pit area refers to the space immediately surrounding each vehicle</u> .

Other relevant reference material:

- Health and Safety at Work Act 2015 (HSWA)
- Health and Safety at Work (Hazardous Substances) Regulations 2017
- Hazardous Substances and New Organisms (HSNO) Act 1996

3. Provide Health and Safety Information

Persons involved with the motorsport event (organisers, volunteer officials, marshals, competitors, and service teams) must be provided with information, training and supervision to protect themselves from Health and Safety risks. This can be done via a safety briefing.

Those who are involved in working with or near the fuel and its storage areas need to understand the risks involved, how to mitigate those risks and what actions to take in an emergency.

In addition, those directly involved with the handling and storage of the fuel must have training and be educated in the following:

- The harm that fuel can cause and how to keep themselves safe.
- How to safely dispense, store and dispose of fuel.

- Where the information about how to safely handle and store the fuel is kept including where the **Safety Data Sheets (SDS) are kept**.
- The actions they need to take in an emergency, whether it is a fire, a fuel spill, or a medical emergency.
- Using a fire extinguisher and knowing where they are located on-site.

Supervised Experience

An induction or supervised experience, specific to your event will need to be provided. This will include risks to health and safety, how to use refuelling equipment etc. Even if they have been trained previously it is still good practice despite previous training.

Spectator safety

If spectators are expected or likely to attend your event, you will need to provide sufficient signage and warnings, advising them of the presence of fuel and the associated risks.

Warning signs should be prominently displayed at all entrances to the event where spectators will arrive.

4. Storage and Containment of Fuel

Venue Owners and Event Organisers are to follow these key controls to keep everyone on site, including all competitors and their crew, volunteers, officials, and spectators safe.

Venue Owners and Event Organisers

It is the organiser's responsibility to ensure that a designated fuel storage area is set up. This area must be secured from unauthorised access, should the fuel area be unattended.

At the end of each day any remaining fuel, not in the car, must be removed from the pit/service areas and stored in the designated fuel area overnight.

If there is no designated fuel storage area set up, it is the competitor's responsibility to ensure the fuel is stored safely offsite overnight.

If the Venue needs a location compliance certificate, the venue owner will need to arrange a Compliance Certifier to visit the motorsport venue.

QUANTITY	COMPLIANCE CERTIFICATION REQUIREMENTS
0 > 50 L	✗
50 > 2000 L	<p>You don't need a location compliance certificate if the fuel is:</p> <ul style="list-style-type: none"> - Stored for less than 14 days. - Stored in one or more secure containers, each of which has a capacity of less than 250 L; and complies with the relevant packaging requirements. - Stored at least 15 m away from any protected place. - Stored either in the open or in a well-ventilated building, and, - In a compound or other place where any spills will not endanger any building or flow into any stream, lake or natural water
> 2000 L	✓

Secondary containment

A secondary containment system is a physical barrier or container that can hold the contents of fuel containers in case they spill or leak.

If the venue's designated fuel storage area contains less than 2,000 litres, secondary containment won't be required if the following criteria are met:

- The fuel is stored in a tank wagon or in secure containers.
- Each individual container has a capacity of less than 250 litres.
- Located so that any potential spillage will not endanger any building or flow into any stream, lake or natural water source.
- Stored for a continuous period of less than 14 days.

If you are storing over 2,000 litres of fuel, you will need secondary containment. The amount of secondary containment you need depends on the location of your storage area and the size of your container.

As a guide, refer to the chart below:

Minimum secondary containment capacity for hazardous substances with flammable classification.

QUANTITY – TOTAL POOLING POTENTIAL (TPP)

CONTAINER SIZE CATEGORIES	LESS THAN 5,000 LITRES	GREATER THAN OR EQUAL TO 5,000 LITRES
≤ 60 litres	At least 50% TPP	2,500 L or 25% TPP whichever is greater
> 60 and up to 450 litres	At least 100% TPP	5,000 L or 50% TPP whichever is greater
> 450 litres	At least 110% of the capacity of the largest container	

Total Pooling Potential (TPP) in relation to a place, means the aggregate quantity of all pooling substances, in this case fuel, held in the place.

5. Precautionary Measures

Separation of motorsport fuel from ignition sources:

Ignition sources are anything that could ignite fuel vapours, e.g., naked flames, running engines, grinders, welding and any tool that may create sparks or static electricity.

There is a no smoking or vaping policy around all pit, service and refuelling areas.

This needs to be displayed with clearly visible signage to competitors, spectators, officials, and marshals.

Maintain Separation Distances

Motorsport fuel must be stored:

- At least 6 metres away from other combustibles e.g., other fuels and other hazardous substances.
- At least 6 metres away from property boundaries.
- Positioned so any spilt fuel will not contaminate streams, lakes or waterways.
- Positioned away from possible contact with vehicles in a collision.
- In an open well-ventilated area.

Signage

Warning signs are vital for the safety of Officials, Marshals, Competitors and their teams, spectators and emergency services. You must have warning signs at your event if you are storing more than:

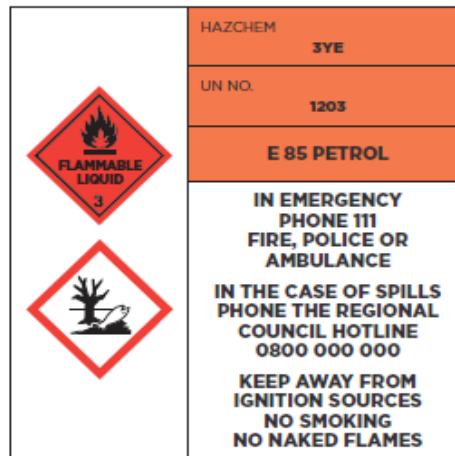
- 250 litres of petrol.
- 1,000 litres of diesel.

Signs must be displayed at eye level in all fuel store entrances, including vehicle access points. They must be close to the fuel store but not so close that people come across the fuel before being warned.

To ensure maximum safety, signs must be big enough so they can be read from 10 metres away. They must tell people (in plain English or pictograms):

- that the storage area contains hazardous substances.
- the hazards of each product in the storage area.
- the precautions needed to manage them safely.
- what to do and who to contact in an emergency.

Even if you aren't required to have signage, it is highly recommended that you have them. An example of fuel signage that is available from most safety outlets.



Put a lid on it.

Ensure all fuel containers have a secure lid on them when not in use. It stops flammable vapours from escaping and mitigates the risk of spillage.

Competitors - Store only what you need.

Competitors should always keep the amount of fuel in both the pit area and fuel storage area to a **minimum**.

- At a sprint race, competitors will only store a maximum of 40 litres in their pit area. If the team has more than one car, then the fuel should not be all stored in one location but a minimum of 3 metres apart for every 40 litres stored.
- During an endurance race, competitors will only store a maximum of 200 litres of fuel in their allocated pit area at one time.
- During a rally, competitors should only store enough fuel to refuel their cars during one service.
- During a ClubSport event, competitors should only store a maximum of 40 litres in their pit area.

Fuel, other than those outlined in the paragraphs above, must be stored in the designated fuel area.

Use an approved container

For competitors who are bringing or storing fuel at an event in containers that hold less than 25 litres, the containers must meet **Australia New Zealand Standard AS/NZS 2906:2001** or **ASTM F852:08** or a standard referred to in a safe work instrument. Some of these containers will have a LAB registration marked on them.

Check that your containers aren't damaged and that they have a sealing cap in good working order. They also must be correctly labelled to identify they contain fuel and that it is flammable.

If the container holds more than 25 litres, must have a UN packing that it contains fuel. Examples of these drums with an

Please note that Oil storage containers.



more than 25 litres, must label and be clearly labelled and potential hazards. include steel containers or appropriate sealing cap.

drums are not suitable fuel

FIGURE 1:
Pictogram showing the flammable classification of fuel

6. Refuelling and Defueling Process

We cannot Eliminate the hazards relating to refuelling therefore controls need to be put in place with the use of PPE being the least effective, but still important control, to be used.

Most effective ↓ Least effective	ELIMINATE:	
	1 Eliminate the hazard remove it completely from your workplace	If this isn't reasonably practicable, then...
	MINIMISE:	
	Substitute the hazard (wholly or partly) with a safer alternative 2 Isolate the hazard using physical barriers, time or distance Use engineering controls adapt tools or equipment to reduce the risk	Minimise the risk, so far as reasonably practicable, by taking 1 or more of these actions that is the most appropriate
3 Use administrative controls develop methods of work, processes and procedures	If a risk then remains, you must minimise the remaining risk, so far as reasonably practicable	
4 Use personal protective equipment (PPE) this is the last option after you have considered all the other options for your workplace	If a risk then remains, you must minimise the remaining risk by using PPE	

Race: Endurance Races

All refuelling will take place in the designated refuelling area, the pit paddock or as set out in the Supplementary Regulations for the event.

Only refuelling equipment approved in the relevant regulations for the event can be used for refuelling the vehicle.

Competitors are advised not to refuel/defuel in their competition safety apparel to prevent contamination and exposure to vapours.

In all races where refuelling is necessary, all refuelling will be carried out either in the refuelling bay provided or in the pit lane under conditions specified in the Supplementary Regulations.

The Organisers reserve the right to inspect and if necessary, approve refuelling equipment prior to it being used.

There will be a maximum of 6 crew members in pitlane servicing the vehicle during refuelling to minimise the risk of injury. This includes the two refuelling crew members involved in the refuelling but excludes the car controller and the Deadman handle operator.

The refuelling crew will consist of 1 refueler, a fire marshal with a fire extinguisher, and one person in charge of operating the Deadman handle on the refuelling device, who is not included in the servicing crew number. These people will not be involved in any other activity during the refuelling process.

Those involved in the refuelling process and those on the quarter of the vehicle nearest to where the refuelling is taking place will wear full Hot Refuelling Personal Protective Equipment (PPE) as outlined in this document.

Those involved in the refuelling /defueling must be wearing the appropriate PPE and follow the procedures in **Appendix One – Endurance Races**.

All vehicles (except those using 'dry-break' systems) must stop their engines for the duration of the refuelling process.

No other work may be performed on the vehicle during the refuelling process unless a dry break refuelling system is used.

Sprint Races

There will be no refuelling permitted in the pitlane unless it is approved in the event's Supplementary Regulations. Should this be permitted, Endurance Race regulations will apply.

All refuelling will take place in the designated refuelling area or the pit garages /paddock, whichever is applicable.

The use of funnels and open vessels is not recommended, but where there is no other option, precautions must be taken to prevent any spillage.

The car's engine must be switched off along with the electrical Master Switch disconnected with the car sitting on the ground in neutral to ensure that the car can be removed from the pit area easily if a fire occurs.

No one will be sitting in the car while refuelling is being carried out.

No other work may be performed on the vehicle during the refuelling process unless a dry break refuelling system is used.

There must always be a fire extinguisher of the appropriate rating present whenever refuelling or defueling.

There must be at least two people involved in the refuelling/defueling: one doing the refuelling and the other responsible for the fire extinguisher. The fire extinguisher person will not be involved in the refuelling.

For those involved in the refuelling/defueling it is highly recommended that they are wearing the appropriate PPE and follow the procedures in **Appendix Two – Sprint Races**.

It is highly recommended that competitors do not refuel/defuel in their competition safety apparel to prevent contamination and exposure to vapours. Fuel splashes and vapours that contaminate safety apparel will reduce the fire resistance and effectiveness of the garments.

Rally

Refuelling will be carried out in service parks or designated areas or as outlined in the event's supplementary regulations.

The car's engine must be switched off along with the electrical Master Switch disconnected with the car sitting on the ground in neutral to ensure that the car can be removed from the service area easily if a fire occurs.

No one will be sitting in the car while refuelling is being carried out.

No other work may be performed on the vehicle during the refuelling process unless a dry break refuelling system is used.

The use of funnels and open vessels is not recommended, but where there is no other option, precautions must be taken to prevent any spillage including access to spillage kits.

There must be at least two people involved in the refuelling/defueling: one doing the refuelling and the other responsible for the fire extinguisher. The fire extinguisher person will not be involved in the refuelling.

For those involved in the refuelling/defueling it is highly recommended that they are wearing the appropriate PPE and follow the procedures in **Appendix Three – Rally**.

It is highly recommended that competitors do not refuel/defuel in their competition safety apparel to prevent contamination and exposure to vapours. Fuel splashes and vapours that contaminate safety apparel will reduce the fire resistance and effectiveness of the garments.

ClubSport

If refuelling/defueling is required, it will be carried out in the pit area or garage away from activities.

The car's engine must be switched off along with the electrical Master Switch disconnected with the car sitting on the ground in neutral to ensure that the car can be removed from the service area easily if a fire occurs.

No one will be sitting in the car while refuelling is being carried out.

There must be at least two people involved in the refuelling /defueling: one doing the refuelling and the other responsible for the fire extinguisher. The fire extinguisher person will not be involved in the refuelling.

For those involved in the refuelling/defueling it is highly recommended that they are wearing the appropriate PPE and follow the procedures in **Appendix Four – Clubsport**.

It is highly recommended that competitors do not refuel/defuel in their competition safety apparel to prevent contamination and exposure to vapours. Fuel splashes and vapours that contaminate safety apparel will reduce the fire resistance and effectiveness of the garments.

7. Safe Refuelling and Defueling Practices

The following information sets out the standard safe refuelling/defueling practices expected of those handling fuel.

- The vehicle's engine and master switch is to be switched off before the process of refuelling or defueling commences;
- Using a manual hand pump is highly recommended as it provides a safer, more controllable flow of fuel. However, if an electric pump is to be used, it must be intrinsically safe and suitable for use with fuel, with an operator monitoring this throughout the process. In both cases, ensure that the pump is earthed to prevent static electricity build-up;
- If a funnel is used to refuel the vehicle, care must be taken to ensure the likelihood of spillage is minimal and a spill tray is located under the filling nozzle location;
- Clean up all spills immediately if it is safe to do so.
- Fuel must not be added or removed from a vehicle after it has left the designated refuelling/defueling area as noted in the Supplementary Regulations;
- Check that anyone not involved in refuelling/defueling is at least 6 metres away from the refuelling area;
- Check no one is smoking in the adjacent area;
- Ensure a dedicated crew member wearing the correct PPE is standing by with a fire extinguisher. The crew member who is the fire marshal won't be involved with the refuelling process;
- Refuelling should be done in an area that provides good ventilation and reduces the build-up of fuel vapour;
- The vehicle that is being refuelled should be earthed to ground in order to prevent static electricity build up. An easy way to do this is by placing the fuel container on the ground and touch the vehicle before you commence refuelling.

8. Personal Protective Equipment (PPE)

Remember that PPE is the least effective control measure - it should not be the first or only control measure used to manage risks from fuel.

Also, PPE only works if it is used correctly. If the wrong sort is used or it does not fit correctly, it won't do its job. You must ensure it is kept clean, maintained, or repaired and replaced so it continues to be in good working order to minimise the risks to health and safety.

For competitors and service crew members working in the pitlane or service areas in the vicinity where refuelling or defueling is taking place, it is highly recommended that they are wearing the correct PPE.

It is highly recommended that competitors should not carry out refuelling or defueling while wearing the competition safety apparel they are using for the event. Fuel splashes and vapours that contaminate safety apparel will reduce the fire resistance and effectiveness of the garments.

In cases when this is not viable, then care should be taken to avoid spills onto the competition safety apparel and if fuel is split on the competition safety apparel, then changing or drying and airing the clothing out as soon as possible is needed.

Make sure the PPE is suitable

The PPE should be worn by those who are handling fuel or in the process of handling fuel. To provide clarity, the term "handling" fuel covers such actions as:

- Refuelling;
- Defueling;
- Decanting from one container into another.

The following PPE items are required as a minimum by those who are handling fuel:

- **Overalls:** Fire-resistant overalls or clothing (long sleeves and long pants) made from non-flammable material, such as:
 - Fire Resistant (FR) Clothing to ISO Standard – 11612 Protective clothing. <https://www.standards.govt.nz/shop/iso-116122015/>, or;
 - Material outlined under **Schedule A, Article 4.3 (1) Line "C"**, as a minimum, are highly recommended to be worn.

NOTE: *Motorsport suit/overalls are not required but are highly recommended. Other fire resistant clothing is acceptable as outlined above*

- When "hot refuelling" is taking place, such as during an endurance race, those people physically involved in the refuelling i.e., Operating the fuel nozzle or churn and the fire extinguisher person must be wearing a multi-layer Flame

resistant suit and clothing as set out in **Schedule A, Article 4.3 (1) Line “B”**

- **Gloves:** Fire-resistant gloves as those outlined under **Schedule A, Article 4.3 (1) Line “C”** as a minimum when working with fuel.
- **Footwear:** When in contact with fuel, it is highly recommended that heavy-duty work boots or shoes be worn. It is recommended that these have chemical/fuel-resistant soles.
- **Balaclavas:** For competitors and crew members involved in refuelling vehicles the wearing balaclavas of a Fire-Resistant material to reduce injuries from possible fires is highly recommended.
- **Goggles:** For competitors and crew members involved in refuelling the wearing of fuel-resistant safety goggles carrying the frame marking AS/NZS 1337.1.2010. or better is highly recommended. Two examples are shown below:
 - **Bollé Pilot 2 Fire Goggle** Technical Specifications – <https://www.bolle-safety.com/on/demandware.static/-/Library-Sites-BolleSafetyEUSharedLibrary/default/dw8c138d18/technical-sheet/PILOT%20%20-%20FIRE.pdf>
 - **Esko G-Max** Technical Specifications - <https://www.eskosafety.com/wp-content/uploads/2021/08/GMAX-G-Max-Goggle-Specs.pdf>
- **Pit Helmets:** These may be worn. If pit-style helmets are worn, it is highly recommended that a balaclava, as noted above, be worn underneath the helmet. The primary function of the helmet would be to protect the wearer from an impact to the head, during pitstops.



PPE Reminder Image

Below is an image that is available for use by Venues and Organisers and can be displayed at various points around the service park and pits.

When being used on-site, it should be printed and displayed in a size of 1200mm x 800mm to ensure the best visibility. Additionally, this can be included in the Driver's briefing notes or in the Supplementary Regulations as a further reminder.



The following link provides the image in a PDF format ready to print:
https://motorsport.org.nz/wp-content/uploads/Refuelling-Sign_092023.pdf

Volunteer Officials PPE

Volunteer Officials work in varied areas within the event and as such the Volunteer Officials should be aware of their surroundings and the hazards within those environments. Consequently, a 'one size fits all' approach is impractical.

However, when a Volunteer Officials role requires them to be working in an active area where refuelling takes place, it is highly recommended that they:

- be wearing the correct PPE as above, as a minimum, applicable for this environment, or
- if they don't have the correct PPE and refuelling is taking place, then they should take themselves away from the area to a safe distance and wait for the refuelling to be completed.

All Volunteer Officials should also be aware of the safety apparel that is required in the different areas they may work in. Below are some examples of the various roles and PPS required:

Dedicated Service Park Refuelling Area:

When specifically manning a refuelling area or providing additional cover to the team members refuelling in this area, you are to wear fire-resistant overalls, balaclava, gloves and closed shoes as detailed above.

Pitlane Marshals:

For those who are based in this area, and therefore are more likely to be in close proximity when refuelling and defueling is taking place, you should wear fire-resistant overalls and closed shoes as a minimum and have gloves and a balaclava readily accessible.

Pitlane Marshals Endurance Race:

During Hot Refuelling – when within no less than two meters of the refuelling taking place you should wear fire-resistant overalls, balaclava, gloves and closed shoes.

All other event officials:

Unless your role specifically requires you to enter an area, you should not enter areas where refuelling and defueling could be taking place. If refuelling or defueling is being undertaken, do not enter the area and instead get the attention of the person you require and get them to meet you outside of that area.

If you are required to enter that area during refuelling to conduct your role, it is highly recommended that you wear fire-resistant overalls, balaclava, gloves and closed shoes.

9. Refuelling Equipment

Refuelling Towers

All refuelling towers must be inspected and approved by Motorsport New Zealand or a nominated representative prior to use. If this is being designed from scratch, it is recommended that the design be viewed by MotorSport New Zealand prior to construction starting.

A traditional refuelling tower (Figure 3) must meet the following criteria:

- All parts of the tower (including tank and stand) should be kept inside the pit garage or behind the pitlane working line area.
- Must not hold more than 220 litres of fuel;
- Must be no more than 2 metres in height from the pit bay floor to the top of the tank. Only vent pipes and fuel holding connections can be higher than 2 metres.
- Must be securely fastened or be weighted down sufficiently to minimise the risk of them falling over in an accident or emergency.
- Be earthed at times when containing fuel.

Before a competition, all refuelling equipment must be checked to make sure it is in safe working order. These checks should include:

- Inspect joints and hoses for leaks or cracks;
- Make sure all fittings are tight and sealed;
- The correct operation of the Deadman Handle;
- The dry-braking system on the car and hose close as required when released;
- All vents are clear and functioning.

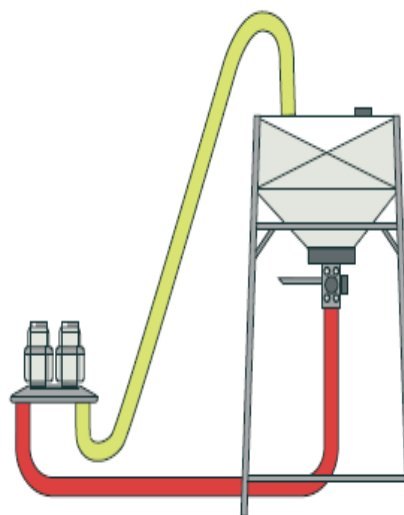


FIGURE 3:
Refuelling tower

Refuelling Hoses

All fuelling and vent hoses/tubing used on the refuelling towers must be fuel-resistant.

Vents

A “Siamese” filler vent (Figure 4) will be connected to a vent hose linked to the tower. The vent moves all displaced fuel from the vehicle’s tank to the unfilled space in the reservoir of the tower.

The vent hose will:

- be made of rubber or a fuel-resistant plastic.
- be at least 2.5 metres long.
- be a maximum of 50 mm (2 inches) in diameter.

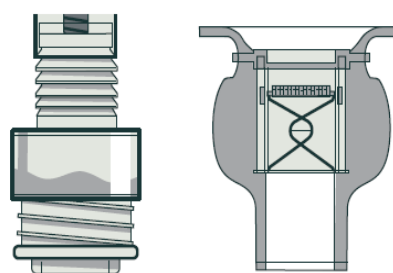


FIGURE 4:
“Siamese” filler
vent configuration

- remain open at all times during refuelling.

Deadman Handle

All refuelling towers will be fitted with a Deadman Handle, which is required to be held open manually during the refuelling process. When pressure on the handle is released, it will close immediately and stop the flow of fuel.

Refuelling using

If you're refuelling using churns, make sure they comply with the Standards described in Section 4 of this guide.

If you're decanting fuel into the churn, make sure that decanting is only done in the dedicated refuelling zone or in the dedicated pitlane garage.



churns

churns, make sure they comply with the Standards described in Section 4 of this guide.

into the churn, make sure that decanting is only done in the dedicated refuelling zone or in the dedicated pitlane garage.

10. Be prepared for an emergency

Even if you are safety conscious, you still need to be prepared for an emergency involving fuel. Event organisers, competitors and their service crews, officials, volunteers, and emergency response workers need to know who is responsible for what in an emergency.

The layout of your event must, so far as is reasonably practicable, allow people to enter, exit and move about safely without risks to their health and safety - under normal conditions and in an emergency. Where practical involve other event personnel to share their ideas and experiences or concerns about how the venue is set up.

Emergency Planning

Good planning and organisation are important for the safety and enjoyment of everyone involved in the event. One of the good steps is to have an effective emergency plan.

The emergency plan contains information on how to respond to accidents, how to notify emergency services and what help you will need from emergency services if a major incident occurs.

If you have large amounts of fuel stored on-site, you must include this in your emergency plan. It must cover all the likely emergencies involving fuel and identify who is responsible in each emergency. This plan needs to be tested at least once per year.

Use Hazardous Substances Calculator <https://hazardoussubstances.govt.nz/calculator> to work out if you need an Emergency Response Plan.

The <https://hazardoussubstances.govt.nz/> website has a lot of useful information when preparing the plan.

If fuel spills or leaks, the prime concern is the safety of the nearby people. If anyone is injured, make sure they receive first aid and medical treatment.

Safety Data Sheet (SDS)

Safety Data Sheets approved for fuel products used in motorsport in New Zealand are available at <https://www.motorsport.org.nz/technical/fuel/>

Fire

If you are not the venue owner, check what fire safety arrangements are in place and what you need to do if a fire breaks out.

11. Fire extinguishers

Fire extinguishers are to be with the Dedicated Fire Marshall on the crew whenever the vehicles is being refuelled or defueled and is to be used put out any fires which may occur before these spreads and becomes dangerous.

- All competitors must keep at least one 60B rated 4.5 kg dry powder fire extinguisher in their pit area. Note the definition of Pit Area under Section 1 of this document. If more than one vehicle is sharing a pit garage or similar one 4.5 kg extinguisher is required for each vehicle. The fire extinguisher fitted to the motorsport vehicle is not included in this requirement. The fire extinguisher must be clearly visible and accessible in an emergency.
- Organisers must ensure that at least one 80B rated 9 kg fire extinguisher is always situated in the pitlane/activity area whenever vehicles are practicing or competing. This extinguisher must be clearly visible and readily accessible in an emergency.
- Pitlane fire marshals should be provided with the required PPE.
- In Endurance Racing, each competing team will have a minimum of two 80B rated 9kg fire extinguishers in the refuelling area. One with the team's fire marshal and the other one located in a clear space near the fuel container. The Team Manager shall brief the team on using the extinguishers before the event.

If there is a fire, raise the alarm - phone 111.

- Make sure people are in a safe area.
- Don't put yourself or others at risk.

12. Spills and leaks

You need to be prepared to deal with a fuel leak or spill. You need to take extra care with fuel spills to make sure people onsite do not do anything to ignite the vapours. For example, cell phones should not be used near a spill as they can be an ignition source.

You must report any fuel spills at your event, to the event organiser particularly if it endangers a waterway.

Event organisers are to report spills that endanger a waterway to the venue owner /operator.

What to do if there is a fuel spill

If it is safe, stop the spill at the source. Then:

- stop the fuel escaping to drains and waterways.
- clean up the spill using a Spill Kit but only if it's safe to do so.

Spill Kits

It is highly recommended that these be available from the organisers for events. These are available from safety outlets and should generally contain:

- PPE like overalls, gumboots gloves, goggles and face masks
- Spill handling equipment like plastic shovels. Metal shovels can cause a spark.
- Spill containment equipment like drain guards or barriers and absorbent material.
- Leak proof disposable container to put contaminated material in for disposal.

Minor spills

You should follow these steps to clean up a minor fuel spill:

- Keep anyone not involved with the clean-up of a minor spill away.
- Wear the correct PPE.
- Check there are no ignition sources near the spill.
- Stop the spill or leak at the source if it is safe to do so.
- Stop the spill from spreading by using absorbent material such as sand, soil or spill containment socks.
- Clean the spill up using your spill kit.
- Dispose of all product and contaminated materials according to the Safety Data Sheet (SDS)
- Clean your PPE after use.

Think about how the spill happened, was it avoidable? Do your safety procedures need updating to minimise the risk of another spill?

Everyone is responsible for health and safety.

If you see an issue, rectify it if able or report the issue to an Event Official.

Appendix One – Race: Endurance

This document must be read in conjunction with the MotorSport New Zealand Code of Practice – Fuel.

- **Store only what you need.** During an endurance race, competitors will only store a maximum of 200 litres of fuel in their allocated pit area at one time.
- “Pit Area” is that area immediately around each vehicle.
- If the container is larger than 25 litres such as steel containers or drums with the appropriate sealing cap, they must have a UN packing label and clearly labelled that they contain fuel and the potential hazards. [OBJ]
- Oil drums are not suitable fuel storage containers.
- **There is a no smoking or vaping policy around all pit, service and refuelling areas.**
- Competitors and service crew members working in the pitlane or service areas in the vicinity where refuelling or defueling is taking place must wear the correct PPE.
- Only refuelling equipment approved in the relevant regulations for the event can be used for refuelling the vehicle.
- The Organisers reserve the right to inspect and if necessary, approve refuelling equipment prior to it being used.
- There will be maximum of 6 crew members in pitlane servicing the vehicle during refuelling to minimise the risk of injury. This includes the two crew members involved in the refuelling but excludes the car controller.
- All vehicles (except those using a ‘dry-break’ system) must stop their engines for the duration of the refuelling process.
- No other work may be performed on the vehicles during the refuelling process unless a ‘dry-break’ refuelling system is used.
- Those involved in the refuelling process and those on the quarter of the vehicle where the refuelling is taking place will wear full Personal Protective Equipment (PPE).
- The refuelling crew will consist of 1 refueler, a fire marshal with a fire extinguisher, and one person in charge of operating the tap on the refuelling device, who is not included in the servicing crew number. These people will not be involved in any other activity during the refuelling process.
- Suitable fuel spillage containment equipment must be used i.e. a minimum of a suitable spill mat.
- All competitors must keep at least one 60B rated 4.5 kg dry powder fire extinguisher in their pit area. If more than one vehicle is sharing a pit garage or similar area, one 4.5 kg extinguisher is required for each vehicle.
- Each competing team will have a minimum of two 80B rated 9kg fire extinguishers in the refuelling area. One with the team’s fire marshal and the other one located in a clear space near the fuel container. The Team Manager shall brief the team on using the extinguishers before the event.
- The fire extinguisher fitted to the motorsport vehicle is not included in this requirement.

Appendix Two – Race: Sprint

This document must be read in conjunction with the MotorSport New Zealand Code of Practice – Fuel.

- **Store only what you need.** Competitors should always keep the amount of fuel in both the pit area and fuel storage area to a minimum.
- “Pit Area” is that area immediately around each vehicle.
- At a sprint race, competitors will only store a maximum of 40 litres in their pit area. If the team has more than one car, then the fuel should not be all stored in one location but a minimum of 3 metres apart for every 40 litres stored.
- If the container is larger than 25 litres such as steel containers or drums with the appropriate sealing cap, they must have a UN packing label and clearly labelled that they contain fuel and the potential hazards. [OBJ]
- Oil drums are not suitable fuel storage containers.
- **There is a no smoking or vaping policy around all pit, service and refuelling areas.**
- For competitors and service crew members working in the pitlane or service areas in the vicinity where refuelling or defueling is taking place it is highly recommended that you wear the correct PPE.
- There will be no refuelling permitted in the pitlane unless it is approved in the event’s Supplementary Regulations. Should this be permitted, Endurance Race regulations will apply.
- The car’s engine and master switch must be switched off with the car sitting on the ground.
- No one will be sitting in the car while refuelling is being carried out.
- No other work may be performed on the vehicle during the refuelling process unless a dry break refuelling system is used.
- There must be at least two people involved in the refuelling /defueling, one doing the refuelling and the other responsible for the fire extinguisher. This person must not be involved in the refuelling or any other activity. It is highly recommended that they wear the correct PPE.
This may be a “buddy-up” approach to support each other in the refuelling process.
- It is recommended that you use a manual hand pump for refuelling. If you are using an electric pump it must be intrinsically safe and suitable for use with fuel.
- Crew members involved in refuelling should always use a manual hand pump. These have a lower risk of spillage compared to funnels.
- Suitable fuel spillage containment equipment must be used i.e. a minimum of a suitable spill mat.
- All competitors must keep at least one 60B rated 4.5 kg dry powder fire extinguisher in their pit area.
- If more than one vehicle is sharing a pit garage or similar area, one 4.5 kg extinguisher is required for each vehicle.
- The fire extinguisher fitted to the motorsport vehicle is not included in this requirement.

Appendix Three – Rally

This document must be read in conjunction with the MotorSport New Zealand Code of Practice – Fuel.

- During a rally, competitors should only store enough fuel to refuel their car during one service.
- If the container is larger than 25 litres such as steel containers or drums with the appropriate sealing cap, they must have a UN packing label and clearly labelled that they contain fuel and the potential hazards. ^[003]
- Oil drums are not suitable fuel storage containers.
- **There is a no smoking or vaping policy around all pit, service and refuelling areas.**
- For competitors and service crew members working in the pitlane or service areas in the vicinity where refuelling or defueling is taking place it is highly recommended that you wear the correct PPE.
- Refuelling will be carried out in service parks or designated areas or as outlined in the event's supplementary regulations.
- The car's engine and master switch must be switched off with the car sitting on the ground.
- No one will be sitting in or working on the car while refuelling is being carried out.
- There must be at least two people involved in the refuelling /defueling, one doing the refuelling and the other responsible for the fire extinguisher. This person must not be involved in the refuelling or any other activity. It is highly recommended that they wear the correct PPE.
This may be a "buddy-up" approach to support each other in the refuelling process.
- It is recommended that you use a manual hand pump for refuelling. If you are using an electric pump, it must be intrinsically safe and suitable for use with fuel.
- Crew members involved in refuelling should always use a manual hand pump. These have a lower risk of spillage compared to funnels.
- Suitable fuel spillage containment equipment must be used i.e. a minimum of a suitable spill mat.
- All competitors must keep at least one 60B rated 4.5 kg dry powder fire extinguisher in their pit area.
- If more than one vehicle is sharing a pit garage or similar area, one 4.5 kg extinguisher is required for each vehicle.
- The fire extinguisher fitted to the motorsport vehicle is not included in this requirement.

Appendix Four – ClubSport

This document must be read in conjunction with the MotorSport New Zealand Code of Practice – Fuel.

- **Store only what you need.** Competitors should always keep the amount of fuel in both the pit area and fuel storage area to a minimum. All other fuel must be stored in the designated fuel storage area.
- “Pit Area” is that area immediately around each vehicle.
- If the container is larger than 25 litres such as steel containers or drums with the appropriate sealing cap, they must have a UN packing label and clearly labelled that they contain fuel and the potential hazards. ^[05]
- Oil drums are not suitable fuel storage containers.
- **There is a no smoking or vaping policy around all pit, service and refuelling areas**
- For competitors and service crew members working in the pitlane or service areas in the vicinity where refuelling or defueling is taking place it is highly recommended that you wear the correct PPE. It is highly recommended that competitors should not wear the competition safety apparel they are using for the event while refuelling
- There will be no refuelling permitted in the pitlane unless it is approved in the event’s Supplementary Regulations. Should this be permitted, Endurance Race regulations will apply.
- The car’s engine and master switch must be switched off with the car sitting on the ground.
- No one will be sitting in or working on the car while refuelling is being carried out.
- There must be at least two people involved in the refuelling /defueling, one doing the refuelling and the other responsible for the fire extinguisher. This person must not be involved in the refuelling or any other activity. It is highly recommended that they wear the correct PPE.
This may be a “buddy-up” approach to support each other in the refuelling process.
- It is recommended that you use a manual hand pump for refuelling. If you are using an electric pump, it must be intrinsically safe and suitable for use with fuel.
- Crew members involved in refuelling should always use a manual hand pump. These have a lower risk of spillage compared to funnels.
- Suitable fuel spillage containment equipment must be used i.e. a minimum of a suitable spill mat.
- All competitors must keep at least one 60B rated 4.5 kg dry powder fire extinguisher in their pit area.
- If more than one vehicle is sharing a pit garage or similar area, one 4.5 kg extinguisher is required for each vehicle.
- The fire extinguisher fitted to the motorsport vehicle is not included in this requirement.