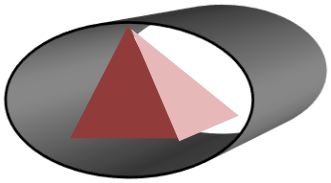

PETROLEUM INDUSTRY TRANSPORT SAFETY FORUM &
FUEL DISTRIBUTORS INDUSTRY SAFETY COMMITTEE

SUBMISSION TO WORKSAFE on: CONSULTATION – FLAMMABLE GASES AND OXYGEN TANKWAGONS ACOP

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JUNE 2018

PETROLEUM INDUSTRY TRANSPORT SAFETY FORUM and FUEL DISTRIBUTORS INDUSTRY SAFETY COMMITTEE SUBMISSION TO WORKSAFE ON FLAMMABLE GASES AND OXYGEN TANK WAGONS ACOP CONSULTATION

1.0 Petroleum Industry Transport Safety Forum & Fuel Distributors Industry Safety Committee

1.1 The Petroleum Industry Transport Safety Forum and Fuel Distributors Industry Safety Committee are voluntary organisations made up of delegated fuel industry participants and delivery agents assembled under the general auspices of Road Transport Forum NZ.

1.2 The two-group's primary purpose is to draw on member's substantial experience and provide representation to, and further the interests of, participants involved in the safe transport, storage and handling of petroleum products.

1.3 Group members represent the interests of the major oil and fuel distribution companies in New Zealand[1]. Our estimation is that the interests of over ninety five percent of industry players and stakeholders are conveyed through these groups.

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[1] Including but not limited to: Allied Petroleum Ltd, BP Oil NZ Ltd, Z Energy Ltd, Pacific Fuel Haul, MFI Engineering, Tanker Engineering, Tranzliquid Logistics Ltd, Farmlands, South Fuels/ North Fuels, Allied Petroleum / Wealleans, Toll, McFall/Rural Fuels, Waitomo fuels, McKeowns Linfox Logistics and RD Petroleum

2.0 **FORWARD**

2.1 The commencement of the Health and Safety at Work (Hazardous Substances) Regulations 2017 means the three HSNO Tank Wagon Codes of Practice cease to have any legal status.

2.2 The Drafters of the tankwagon ACOP's will note similarities between this and the Flammable Liquids Road Tank Wagon ACOP submission. The requirements in each of those ACOP's are very similar and deviate really only in terms of product carried and differing construction design to cater for those products. For ease and simplicity for ACOP readers layout and terminology should be consistent and similar across both. Hence, it is vitally important the comments we make on one mirror that for the other. Although essentially the same, there are subtle differences between the two submissions.

2.3 Worksafe provided industry the opportunity to submit on proposed changes late in 2017. We are grateful the consultation draft has picked up a number of those suggestions made for the flammable gases and oxygen COP. The draft does present other matters we hadn't submitted on earlier that do require addressing if the ACOP is to deliver according to its purpose.

2.4 We had expected the draft ACOP to be an extension of the existing COP. While some new parts have been inserted a large number of existing sections have been re-titled and their format changed. Changing format or sequence of parts and sub-parts is a distraction that makes it unnecessarily difficult for users to become familiar with. The purpose of the ACOP should be to improve/ensure compliance and safety. Re-organising the format does nothing to improve that.

2.5 The vast majority of ACOP users will be participants in the road freight transport sector. They must be familiar with general road transport

related rules and regulations. The ACOP sets standards and requirements that extend beyond that as road transport legislation does not encapsulate the intricacies of designing and building product specific vehicles, nor should it. The existing COP attempted to bridge and connect land transport and hazardous goods requirements. The ACOP attempts to do the same and the reality is doing so diffuses the integrity of the ACOP.

2.6 In terms of road fit and road safety the ACOP is subservient to land transport legislation. In terms of manufacturing vehicles to transport hazardous goods safely the converse applies. The ACOP does not match its stated purpose. That requires re-consideration.

2.7 The ACOP Introduction takes care to point out its purpose is to *"provide an acceptable solution for the design and construction of tankwagons…".* Under 1.3 Scope the aim of the ACOP then shifts to *"ensure that bulk flammable liquids are securely contained and safely transported and handled….".* The ACOP is littered with operational procedures that are beyond the design and construction of tankwagons.

2.8 If the ACOP is to detail operational procedures and expectations the purpose statement should be amended to reflect that. Conversely, if the purpose is correct other parts that do not relate to construction or design should be removed. However, the incompatibility of land transport and hazardous goods functions dictates the ACOP should be dedicated to providing an acceptable solution for the design and construction of tankwagons.

2.9 There is no need to detail operational procedures or broadcast those expectations in the ACOP. That is done as part of the training process. The regulator has oversight of that. The checks and balances are therefore in place.

2.10 The simplicity of detailing who is responsible for what that existed in the existing COP has to great extent been lost by introducing references like *"relevant PCBU's".* Undoubtedly the draft writers know who they want to make responsible for certain aspects of design and construction. *"Relevant PCBU"* is an ostensibly amorphous reference that does not fit with the object of clearly distinguishing responsibility. That term is also at odds and is bound to confuse any person that is familiar with primary workplace health and safety legislation. The purpose of assigning PCBU status in the workplace is to delegate workplace safety responsibility. The PCBU status as drafted is confusing as its purpose is not to delegate that. It is instead there to assign engineering and construction responsibilities.

2.11 The purpose of referencing "PCBU's" in the ACOP becomes more tortuous when the Interpretation Part of the Act under 17(b)(i) is considered. Employees or workers are excluded from that definition. In many ways these are the people with ultimate construction and design responsibility. In a number of places throughout the ACOP responsibilities are clearly identified by naming the responsible party(s) directly. Terminology should be amended to identify more clearly who is responsible. i.e. A designer, A constructor, A welder…. etc. Doing so would maintain consistency with the Tank Wagons and Transportable Containers Regulations. In the event there is a fault with tankwagon design or construction regulators will be able to identify who the responsible party or entity is/was that should have ultimate oversight.

2.12 The draft ACOP introduces a deviation from standard heavy vehicle parlance by using terms *"must", and "should".* Generally, the closest documents to Worksafe ACOP's are Standards. Standards utilise the terms *"Should" and "Shall".* Shall means that compliance with a requirement is mandatory. Should means that compliance with a recommendation is strongly recommended but not mandatory. A

number of Standards are referenced by the ACOP. The confusion that will result from switching between different terms should be removed. To simplify the document and aid compliance the three terms should be replaced with the two more commonly used. If there is a recommendation to be made that should be stated in the relevant passage. We note the Draft flammable liquids ACOP suggests using the terms "Must", "Needs to" and "Should". Given the mechanics of the ACOP's are similar the terminology between the two should be the same. We have suggested similar changes in our response to the flammable liquids draft ACOP.

2.13 Very commonly throughout the document heading paragraphs contain mandatory or non-mandatory phrases which are not repeated in later parts or sub-parts. It would be simpler and easier to understand if mandatory and non-mandatory requirements were noted in the specific detail applying to them. As an example, Section 2.3.1 reads:

"A relevant PCBU must ensure that every tank wagon is provided with a rear-end collision protection (collision bumper) in accordance with the following requirements to protect the tank from rear impact:

a. *The impact surface of the rear-end collision protection is not less than 150 mm behind the vertical plane of the rearmost bulkhead and is not less than 50 mm behind any other item located behind the tank rear elevation.*

b. *The inner face of the rear-end collision protection (the term shall has been deleted in the Draft ACOP but was present in the existing COP) allows at least 150 mm clearance from any component or fitting below the bottom surface of the tank subframe, which may contain liquid during loading, discharge or conveyance. The rear-end collision protection must be attached to the sub-frame of the tank wagon or the chassis of the vehicle. It must not be attached directly to the tank.*

c. *The rear-end collision protection is a minimum of 1.5 m wide, 750 mm either side of the centre (add line) of the tank. The full width of the rear-end collision protection is not less than……..:"*

2.14 This, and other sections like it would benefit by providing greater clarity through using mandatory or non-mandatory terms. E.g.:

A relevant PCBU **shall**[2] ensure that every tank wagon is provided with a rear-end collision protection (collision bumper) in accordance with the following requirements to protect the tank from rear impact:

a. The impact surface of the rear-end collision protection shall not be less than 150 mm behind the vertical plane of the rearmost bulkhead and not less than 50 mm behind any other item located behind the tank rear elevation.

b. The inner face of the rear-end collision protection **shall** allow at least 150 mm clearance from any component or fitting below the bottom surface of the tank subframe, which may contain liquid during loading, discharge or conveyance. The rear-end collision protection must be attached to the sub-frame of the tank wagon or the chassis of the vehicle. It **shall** not be attached directly to the tank.

c. The rear-end collision protection **shall** be a minimum of 1.5 m wide, 750 mm either side of the centre (add line) of the tank. The full width of the rear-end collision protection is not less than:

2.15 The term "run under" is also introduced in the draft although at times the more conventional and accepted transport term "under run" is used. We are aware the principal Act refers to "run-under". Notwithstanding that, standard terminology in the road freight transport industry is "under-run" and we suggest adopting that throughout the ACOP- as was previous custom in the existing COP.

[2] The term "must" used in the draft ACOP has been substituted for our preferred terminolgy. It is not an indication that is preferred over the term "Shall" as discussed in paragraph 2.8

2.16 The term "tankwagon" requires better definition in some sections. 2.14 is a prime example as "tankwagon" does not identify which vehicle in a combination is targeted.

2.17 Before commencing our comments it is worth mentioning the "Table of Contents" is missing from the draft. That does not enable us to match the table against the draft contents. The omission of the table of contents also made working through the document a little more difficult.

COMMENTS

3.0 **Definitions section**

3.1 A number of definitions provided in the flammable liquids ACOP are missing from this draft. For consistency between the two documents as well as for obvious guidance reasons we suggest adding those definitions to this ACOP.

4.0 **Section 2**- Vehicle design and equipment requirements

4.1 2.3.2 refers to side run-under protection. The term should be changed to side under-run.

4.2 As mentioned in our forward, 2.3.2 is also an example of the incompatibility of land transport and hazardous substances functions. The recommendation to fit side under run protection has no relevance or connection to the ACOP's purpose of finding an acceptable solution for the design and construction of tankwagons. That purpose is to ensure tankwagons are constructed to best practice to ensure product retention and hazard minimisation. Fitting side under-run protection

does not improve that. We do however recognise the safety improvements for vulnerable road users and if this section is to remain we suggest tempering by stating "If side under run protection is fitted attachment shall be made to the vehicle chassis and not directly to the tank."

4.3 2.3.3. Change terminology to rear under-run protection.

4.4 2.3.3(d)(ii) and (iii). These are new requirements. We fail to see the connection between a tankwagon's mass and the propensity for another vehicle to collide with the rear under run protection. The collision force is the same regardless of the laden weight of the tankwagon. Parts (ii) and (iii) should be removed.

4.5 2.4(b) addresses two separate issues- conductor size and circuit protection. We suggest the conductor size remain as 2.4(b) and a separate section relating to circuit protection be inserted under new clause 2.4(c) and re-designation of the following clauses.

4.6 Clause 2.7.1 states the ACOP applies only to vehicles powered by internal compression engines. During the ACOP draft introduction the point is made it is not the intention of the ACOP to limit innovation and technologies to make industry safer. Clause 2.7.1 denies other propulsion technologies. It is sensible to begin planning an ACOP to cater to other propulsion technologies.

4.7 Section 2.8. This section begins with the comment that *"all tank trailers are to be designed to comply with the relevant Land transport Rules"* and then reproduces some of those requirements unnecessarily. That is contrary to the comment at the top of page 7 that *"this ACOP does not detail the requirements of other legislation*". Paragraphs 2, 3, 8 and 9 should remain as they are not covered by land transport legislation. The others can be removed without negatively affecting

compliance or understanding. They are discussed in the bullet points immediately below.

- The requirement that fifth wheels have a maximum towed rating and vertical loadings of at least 1.25 times the weight of the fully laden semi-trailer is at odds to Land transport practice and in this case sets requirements well below that. Section 3.1.2 of NZS 5450-Coupling Devices for Articulated Vehicles: Fifth Wheel Assemblies stipulates "the fifth wheel assembly and mounting attachment components shall be not less than the vehicle combinations GCM". GCM is far greater than 1.25 times laden semi-trailer mass.

- The heavy vehicles brake rule does not allow devices to alter brake system balance.

- According to the heavy vehicles brake rule trailers must be fitted with remote air operated release systems.

4.8 Paragraph 9 reads *"No person is to attach a tank trailer or semi-trailer with a capacity of more than 10,000 L and containing a hazardous substance with class 3.1A or 3.1B hazard classification to any vehicle unless that vehicle is a tank wagon, tractor unit or other vehicle that is designed for use in transporting hazardous substances of classes 3.1A and 3.1B hazard classification.* Exponents of the existing COP will know that the reference to "tractor unit" in this section refers to a hazardous goods spec Tractor unit. That is not entirely clear in the ACOP and should be made clearer.

4.9 Section 2.9(d). This clause places a responsibility to check twistlocks for mechanical defects but fails to notify exactly who will be responsible for that. It is also an operational matter that has no impact on the design or construction of a tankwagon. 2.9(d) should be removed.

4.10 It is also stated that the twistlock rating should be certified. Who is responsible for that certification is not identified. Logically that would be a heavy vehicle certifier approved by NZTA and manufacturers will be aware of that. Howver, there is an opportunity to clarify where that responsibility lies and the ACOP could be improved by clearly stating that.

4.11 Section 2.10 Tankwagon stability.

4.12 This section begins with the statement: *"A relevant PCBU must ensure that a tank is designed and constructed so that when the tank is full it will not roll over when subjected to any of the following:…."*

4.13 It would be clearer to simply state: *"A tank shall be designed and constructed to have:…"*

4.14 2.11 Overseas designs. "Overseas" is not defined. We think we understand the intent of this passage and it could be improved. The vast majority of transport operators and manufacturers are familiar with Maritime NZ rules. Those rules impose international maritime requirements on New Zealand domestic voyages. In that context the North Island is considered "overseas" to the South Island and vice versa. "Overseas" should be substituted for the term "International" or similar.

4.15 2.14 Vehicle rollover. According to the Definitions sections, a tankwagon can be a powered vehicle or a trailer. Some trailer couplings are designed to allow the trailer to roll without inducing a roll moment into the powered unit. As currently written this clause implies if a trailer rolls over the towing vehicle must be automatically shut down. We do not think this is the drafter's aim and suggest rewording. If it is the drafters aim for trailers to shut down towing vehicles this should

be discussed further. The technology and engineering required to facilitate this would make compliance extremely difficult.

4.16 Clause 2.15 reminds operators of their requirement to obey Land Transport legislation. This is an unnecessary duplication of prior advice. It is also an operational matter which has nothing to do with the ACOP's purpose. This clause can be removed without negatively affecting construction or design compliance.

4.17 The second paragraph in section 2.15 contains a grammatical error. *"Tank wagons that transport hazardous substances by sea (e.g. across Cook Strait) are required to comply with the requirements of <u>the any</u> applicable…."*. Suggest removing the word "the"

5.0 **Section 4**- Repairs

5.1 10.2(b) states the tank wagon cannot be located where it can be subject to heating. "Heating" is not clearly defined and while we understand the purpose of this clause it is open for wide interpretation. "Heating" could conceivably be as simple as sunlight gently warming the vehicle or its components.

6.0 **Section 5**- Markings

6.1 This section contains two sets of alphabetical references. The first set of references belongs to permanent markings. The second provides separate advice relating to attachment. It would be clearer if the alphabetical set of references were assigned sequential numbering to separate them. The advice prior to the first set of references could be assigned the number 1 and the second set the number 2.

7.0 **Appendix A**

7.1 Under "Design"

- Subpart(f). One of the issues with identifying vehicles is that registration numbers or fleet numbers are usually not assigned until a vehicle has undergone the registration process following completed assembly and readiness for use on the road. The Vin number is usually assigned at the very start of production/manufacture as is a manufacturer job number. Either of these should also be accepted seeking approval. This would be matched with registration number once commissioned if necessary.

- Subpart (g). As discussed in our forward responsible entities need clarifying. (g) is an example where too little is done to assign responsibility "competent person" should be amended to read "design person or their personnel" or similar.

- Subpart (h). As per comments in the paragraph immediately above, "person" requires defining more clearly.

7.2 Under the "Inspection" heading a "suitably experienced person" is identified as having responsibility for conducting inspections. This is a prime example (as covered in our forward) of the benefits of replacing the term "relevant PCBU" (or other similar term) with a term that distinctly identifies responsibility.

7.3 Page 53 contains the Manufacturer's declaration template. The use of the term "manufacturer" is at odds with the rest of the terminology within the document. This is a clear example where clearly apportioning responsibility is preferable to terms like "relevant PCBU"