

# **Federation of European Motorcyclists Associations (FEMA)**



## **Informal Document**

### **Evaluation of the Impact on Possible Measures Concerning Motorcycle Safety**

#### **Response to Initial Consultation**

**and**

#### **Meeting of Stakeholders September 8th September 2008**

**Submitted October 1st, 2008**

## Evaluation of the Impact on Possible Measures Concerning Motorcycle Safety

This informal document is in response to the Transport Research Laboratory (TRL) evaluation of the Impact on Possible Measures Concerning Motorcycle Safety, on behalf of the European Commission.



FEMA welcomes the opportunity to participate in this consultation regarding the evaluation of possible new measures for the safety of category L vehicles (mopeds, motorcycles, tricycles and quadricycles) and the assessment of the impact of simplifying legislation covering the type-approval of such vehicles.

Submission by Trevor Baird

FEMA Technical Officer

Email: [technical@fema-online.eu](mailto:technical@fema-online.eu)

### Introduction

The Federation of European Motorcyclists Associations (FEMA) is the representative federation of motorcyclists (comprising all powered two wheeled vehicles) throughout Europe.

FEMA represents the interests of 24 national associations from 18 countries in the European Union.

Through an International co-operation of motorcycle organisations FEMA represents motorcycling at the Transport Division of the United Nations Economic Commission for Europe (UNECE) – United Nations Economic Commission for Europe - World Forum for Harmonization of Vehicle Regulations (WP.29) & Working Party on Road Traffic Safety (WP.1).

FEMA is also listed as a United Nations Road Safety Collaboration partner.

For 20 years, FEMA has taken an active part in the road safety debate in these arenas.

The FEMA secretariat is based in Brussels, in the heart of the European Union.

FEMA employs a combination of three full time members of staff and two consultants dedicated to safeguarding the interests of riders.

Within the framework of FEMA, experience based knowledge of motorcycle safety is constantly improved and disseminated.

### Foreword

FEMA has been involved in initial discussions with the European Commission regarding a future consultation which proposes to sweep away existing European and amending Directives and replace them with one single Regulation. This aims to be replaced where possible by references to United Nations Economic Commission for Europe (UNECE) regulations.

FEMA is aware of the intention to completely revise the +/- 20 different regulations that apply to motorcycles, to modernise them and to compile all into 2 texts: one framework directive (which will define the essential requirements, basic condition for production, basic rules for the internal EU market and limit values for environmental standards).

With over 50 base EU Directives covering vehicle safety and environmental issues and over 100 amending Directives, some of these Directives are over 35 years old and many duplicate UNECE Regulations.

A proposal by the Commission in May 2008 encompassed the following areas and to promote wider harmonisation, reference will be made to international regulations (UNECE) wherever possible, Regulatory Simplification - Advanced Vehicle Safety - New Requirements on Tyres.

FEMA is also aware of the CARS 21 report which indicates that regulatory simplification will be in line with the recommendations of the Cars 21 report.

This CARS 21 report is a wide arching overview of motor vehicles, which could encompass motorcycling. However, there is only one specific mention of motorcycles and refers to improving the enforcement of bans on drink-driving, the enforcement of speed limits and the promotion and enforcement of seat-belt use and motorcycle helmet use.

At this stage of the consultation, FEMA would support the simplification of regulations, revising the +/- 20 different regulations that apply to motorcycles, compiling all of them into 2 texts: one framework directive (which will define the essential requirements, basic condition for production, basic rules for the internal EU market and limit values for environmental standards).

FEMA is concerned that by combining what appears to be two different objectives, this may result in creating unnecessarily complex regulations.

Firstly with regards to the modernisation of the text, this appears to refer to GTRs (Global Technical Regulations).

However to achieve this within a one year timescale is an ambitious target.

The second objective aims to (where possible) be replaced by references to United Nations Economic Commission for Europe (UNECE) regulations, by making UNECE regulations compulsory.

However in the spirit of this first objective which is to consult stakeholders' views and to gather information, FEMA has set out below its position on the subjects of interest.

## **FEMA Views**

The views expressed herein, are based on FEMA's mission and policy statement<sup>1</sup> and FEMA's European Agenda for Motorcycle Safety – the Motorcyclists' Point of View" (EAMS)<sup>2</sup> (this document is currently under review and will contain reference to the priorities for motorcycle safety from the OECD Workshop on Motorcycle Safety held in Lillehammer/Norway in June 2008<sup>3</sup> -reference final report).

FEMA has also included reference to other external documents to support FEMA's positions and which are hoped will assist in the first stage of TRL's review regarding conducting a literature review.

The top three priorities identified in the OECD final report are as follows:

1. Training programmes: Countries have different training needs, based on their vehicle fleet and training resources. Motorcycle training should therefore build on existing standards, focus on risk awareness and risk avoidance, and develop an understanding of the rider/motorcycle capacities and limitations.
2. Transport and infrastructure policy: It is a fundamental motorcycle safety requirement that, by default, PTWs should have a place in overall transport policy and infrastructure policy/management.
3. Research and evaluation: Counter measures need to be based on scientific research into driver and rider behaviour and before-and-after evaluations should be conducted.

Motorcycle safety is a complex issue and one that cannot just be "solved" or improved by vehicle technical regulations alone.

As highlighted by the FEMA EAMS and OECD recommendations, the highest priority for motorcycle safety relate to Human, Environmental and Social Factors.

---

<sup>1</sup> <http://www.fema.ridersrights.org/mission.htm>

<sup>2</sup> <http://www.fema.ridersrights.org/docs/EAMS2007.pdf>

<sup>3</sup> <http://www.internationaltransportforum.org/itrc/safety/Lillehammer2008/lillehammer08.html>

FEMA recognises that this consultation deals mainly with Vehicle Factors (technical regulations) but these other factors on motorcycle safety must be kept in mind during the consultation process.

In other words, vehicle factors should not be dealt with in isolation but in the wider political context.

### **ABS/Coupling Braking Devices for Motorcycles**

- No change to the current situation, ABS is not made mandatory
- ABS on all motorcycles (As proposed from 2011)
- ABS on motorcycles with an engine capacity greater than 125cc and advanced braking systems (coupled brakes) on motorcycles with an engine capacity 125cc or lower.

### ***FEMA European Agenda for Motorcycle Safety - ABS/Coupling Braking Devices***

Current motorcycles have better brakes, greater stability, more responsive steering, more effective controls, improved ergonomics for reduced fatigue and improved reliability in all systems, than those of even a decade ago.

Brakes are significantly more powerful, and most motorcycles now have hydraulically actuated disc brakes. The majority of motorcycles still have two separate brake control systems, one for the front wheel and one for the rear wheel.

To compensate for the tendency of riders to over-brake the motorcycle in a panic-situation, several motorcycle producers have developed anti-lock braking systems (ABS) or linked front and rear applications (Combined Braking Systems).

FEMA supports the progressive introduction of affordable advanced braking systems (anti-lock braking systems and/or combined braking systems) on all new motorcycles and scooters through voluntary commitment and respecting consumer choice.

### ***OECD Workshop on Motorcycle Safety - ABS/Coupling Braking Devices***

Manufacturers should continue to introduce advanced (better) braking systems, such as combined brake system and anti-lock-brake systems.

Note: Since 2004 ACEM, The Motorcycle Industry in Europe, manufacturers have jointly committed to the European Road Safety Charter to progressively supply PTWs with advanced braking systems taking into account their distinctive characteristics.

### ***Comments***

FEMA notes with interest in the list of options that there appears to be a proposal that there will be ABS on all motorcycles in 2011.

In a recent reply regarding motorcycle safety in the European Parliament to a question asked by Irish MEP Jim Higgins (PPE-DE) whether “the Commission could indicate if it has a position on the mandatory provision of ABS for motorcycles and whether it has conducted research in this area and the outcome of such research”

Mr Verheugen on behalf of the European Commission replied that, “the Commission is committed to continuously improve the safety of motorcyclists and for this purpose the Commission is analysing the effect of obligatory fitting of anti-lock braking systems (ABS) for motorcycles”.

Mr Verheugen added that, “existing studies reach divergent conclusions in particular for small motorcycles where the extra-cost of the fitting of an ABS system is not negligible. Therefore, the Commission is presently carrying out its own study in order to assess the costs and the benefits of such systems and to review other possible

solutions to improve motorcycle safety. In light of the outcome of this study, the Commission will decide whether to present a legal proposal”.

Mr Verheugen continued that, “research is being carried out under the Research and Technological Development Framework Programmes, in order to optimize motorcycle braking and suspension systems as well as to enhance safety of protection garments. Results of these projects are still preliminary; more robust outcome will be available in 2009”.

FEMA has received clarification on the details of the 2011 proposal for ABS on all motorcycles at the Stakeholders’ consultation meeting that this so called proposal was effectively a suggestion.

The Commission’s representative in his reply in the European Parliament said that the commission is carrying out its own study in order to assess the costs and the benefits of ABS systems and in light of the outcome of this study, the Commission will decide whether to present a legal proposal.

The outcome of this study is considered within this consultation process.

### ***Fiscal - Initial Rider Training - ABS/Coupling Braking Devices***

As mentioned above, motorcycle safety is a complex issue and one that cannot just be “solved” or improved by vehicle technical regulations alone, especially with regards to riders starting to ride a motorcycle and the initial rider training that is required.

Controlling a motorcycle requires techniques and skills for braking effectiveness in real-world traffic situations, especially regarding basic collision-avoidance techniques with the various existing and future braking systems.

This is in consideration that the retrospective amendments to the 2nd EC Driving Licence Directive require braking and swerving exercises to be included in the motorcycle licence test.

The Initial Rider Training<sup>4</sup> project, a European model, places the correct emphasis on relevant machine control skills.

It considers an understanding of the hazards that a rider will face and how these can be avoided and managed, together with an appreciation of the importance of rider attitudes and behaviour.

### ***Fiscal – OECD Workshop on Motorcycle Safety - ABS/Coupling Braking Devices***

This is supported by the first priority for motorcycle safety from the OECD Workshop on Motorcycle Safety: Training programmes - Countries have different training needs, based on their vehicle fleet and training resources.

Motorcycle training should therefore build on existing standards, focus on risk awareness and risk avoidance, and develop an understanding of the rider/motorcycle capacities and limitations.

***FEMA’s position*** is that there should be no change to the current situation, that ABS or linked front and rear applications (Combined Braking Systems) or similar systems should not be made mandatory.

---

<sup>4</sup> <http://www.initialridertraining.eu>

## **Anti-Tampering for Mopeds, Motorcycles, Tricycles and Quadricycles**

- No change to current legislation
- Repeal Chapter 7 of Directive 97/24/EEC (Anti-tampering measures for two-wheeled mopeds and motorcycles)
- Additional measures that could easily improve the legislation on anti-tampering

### ***FEMA Mission and Policy Statement - Anti Tampering***

FEMA supports the users' rights to make modifications to their motorcycles providing they do not compromise their safety and impact on the environment.

We support the right of users to customise motorcycles to their tastes and to perform regular maintenance which anti-tampering measures are unjustifiably trying to curtail.

### ***FEMA Mission and Policy Statement - Anti Tampering***

FEMA supports the application of Type-Approval regulations which help to remove barriers to trade, but opposes such regulations where restrictions are placed on an individual's ability to modify motorcycles.

We support national single vehicle approval which allows the approval of one-off specials, vehicles from limited production and those built for non-EU markets.

### ***FEMA European Agenda for Motorcycle Safety - Anti Tampering***

Vehicle modifications (tampering): The relatively simple design of a motorcycle and the availability of "bolt-on" replacement or accessory components make it easy and popular to modify.

The quality and safety of "bolt on" aftermarket components have steadily improved and are in some cases, significantly superior to equivalent standard components.

Some skilled motorcycle owners take modification even further and design and produce the components themselves.

This creative approach has brought about innovative, highly functional designs, sometimes adopted by the motorcycle industry and used on standard, mass-produced motorcycles.

Modifications favoured by motorcyclists change with technology, fashion, and other factors, which make more specific regulation not only unrealistic, but also unjustifiable, most of the time.

Accordingly, anti-tampering measures such as those implemented in Germany (which require that any modification must be tested or certified prior to the sale of motorcycles) have produced negative side-effects such as limiting the access of riders to superior tyres, brakes, suspension, and other components.

Finally, accident research from some European countries demonstrate that modified motorcycles, such as so called "choppers", are under-represented in accident statistics.

FEMA can see no road safety benefits from restricting the historic tradition of modifying motorcycles.

***FEMA's position is that there should be no change to current legislation.***

*Note:* FEMA will give its view on quadricycles in the relevant chapter.

## **74 KW Power Limit for Motorcycles**

- No change, maintain current option to limit 76 kW maximum power limit
- Repeal maximum power limit
- Mandate maximum power limit, applying it to all motorcycles and possibly extending to include tricycles
- Use an alternative limitation such as power-to-mass ratio or acceleration potential

### ***FEMA Mission and Policy Statement - 74 KW Power Limit for Motorcycles***

Power Limits: FEMA opposes the introduction of power limits for motorcycles.

### ***TNO Study - 74 KW Power Limit for Motorcycles***

FEMA is of the opinion that the results of the 1997 study<sup>5</sup> completed by the TNO, carried out on behalf of the European Commission are still binding.

The study clearly identified that, "there is no scientific evidence that engine size is a major factor in motorcycle accidents; engine size does not emerge as a separate risk factor".

The study in relation to accidents indicates that "For most scenarios where the engine power has been or could been a factor there is no evidence that a restriction in engine power, to e.g. 74 kW, would have avoided the occurrence of the accident."

The study identifies that, "A risk exists that 74 kW motorcycles will be constructed with extreme low weights introducing unnecessary stability or failure risks."

The study does not just concentrate on the BHP/kW issue and the relation to accidents it also reports that, "The riders' age, experience, annual mileage and attitude, but also the situation at the accident site, the weather, etc., are some of the many other factors which influence the occurrence of motorcycle accidents.

When measures are taken to reduce the maximum power of motorcycles, this will not result in a change of the riders' attitudes and driving behaviour, for example. The riders' attitudes and driving behaviour have a major influence on the occurrence of accidents."

FEMA has already set out in the section on braking, the importance of training, especially Initial Rider Training and the priority for motorcycle safety from the OECD Workshop on Motorcycle Safety regarding training, which should be build on existing standards, focus on risk awareness and risk avoidance, and develop an understanding of the rider/motorcycle capacities and limitations.

Without going too much in-depth on the issue of the complexity of accident causation, studies indicate for example, that collisions between cars and motorcycles constitute nearly 50% of all motorcycle accidents, among which 8 of 10 collisions are caused by inattentive car drivers, various reports deal with this issue including:

MAIDS (In-Depth Investigation of Motorcycle Accidents)<sup>6</sup> - IHIE Guidelines for Motorcycling<sup>7</sup> on road infrastructure - The Norwegian Government handbook on Motorcycle Safety<sup>8</sup> - The priorities for motorcycle safety from the OECD Workshop on Motorcycle Safety<sup>9</sup>.

---

<sup>5</sup> Motorcycle power 74kW study Phase B Report prepared by TNO for European Commission DG 11, Industry. Report No. 97.OR.VD.056.1//PR

<sup>6</sup> MAIDS : Motorcycle Accidents In Depth Study <http://www.maids-study.eu>

<sup>7</sup> Institute of Highway Incorporated Engineers Guidelines for Motorcycling <http://www.motorcycleguidelines.org.uk>

<sup>8</sup> Norwegian Public Roads Administration Handbook MC Safety [http://arkiv.nmcu.org/publ/vegdir\\_handbok245/handbook245e.pdf](http://arkiv.nmcu.org/publ/vegdir_handbok245/handbook245e.pdf)

<sup>9</sup> <http://www.internationaltransportforum.org/itrc/safety/Lillehammer2008/lillehammer08.html>

The presentations available on the International Transport Forum and final OECD report sets out the identification of the real problems of motorcycling safety (vs. the perceived problems), discussing practical solutions to these problems and proposing a set of measures to improve the safety of motorcyclists.

One issue that appears to be constant and one that cannot be "solved" or improved by vehicle technical regulations is that of riders' attitudes and driving behaviour.

Although this is not within the scope of this consultation, these factors are important and must be shared by the whole "motorcycle community".

### ***FEMA European Agenda for Motorcycle Safety - 74 KW Power Limit for Motorcycles***

The extreme "high risk takers": Motorcycles with a "sharp" image do not necessarily have the most powerful engines or the highest power-to-weight ratio, they can be as low as 125cc.

Therefore, restrictive legislation based on engine capacity, power output or high power-to weight ratio would not solve the problem at all.

Motorcycle Industry advertising however may have a significant impact. Advertising provides a powerful instrument for creating and sustaining wants by creating even psychological dependence.

Advertising is important for the whole motorcycle industry and their products require an emotional acceptance by consumers.

In that respect, manufacturers and spare parts producers have a duty of care to ensure that the products they sell does not encourage excessive risk taking especially by inexperienced riders.

### ***The French Case - 74 KW Power Limit for Motorcycles***

France is the only EU Member State to have opted to limit L3 vehicles to 74 kW.

However, an official report published recently considers withdrawing this ban "because it has not been seen as making a significant impact on MC road safety". This report by the General Council of Roads and Bridges<sup>10</sup> questioned the usefulness of the law which restricts motorcycles to the maximum of 100bhp. Released on January 10 and devoted to a feasibility study of the technical inspection of motorcycles, the report recognizes the lack of benefits in terms of safety of the 100bhp limitation to the power of motorcycles.

This limitation is a French peculiarity and is unjustified and incoherent with European harmonization.

### ***Norwegian Surveys - 74 KW Power Limit for Motorcycles***

(SSB) Statistics Norway on assignment from the MC-Council<sup>11</sup> conducted an analysis of motorcycle accidents in 1999. Similarly analysis was also made of accidents in 1993, 1995 and 1997.<sup>12</sup>

SSB concluded that the results for 1999 are at least as clear as for previous years; some of the models with a "fierce image" are almost three times more often involved in accidents than other models with a "kinder image" - this despite the fact that motorcycles with a "kinder image" in several cases have significantly more power.

---

<sup>10</sup> <http://www.ladocumentationfrancaise.fr/catalogue/9782110069795/>

<sup>11</sup> The Council consists of representatives from the Motorcycle Wholesaler's Association (MGF), Safe Traffic, Police, Vegdirektoratet and NMCU (Norsk Motorcykkel Union)

<sup>12</sup> (In Norwegian only) [http://arkiv.nmcu.org/publ/ssb\\_1995/index.html](http://arkiv.nmcu.org/publ/ssb_1995/index.html)

[http://arkiv.nmcu.org/publ/ssb\\_1997/index.html](http://arkiv.nmcu.org/publ/ssb_1997/index.html)

[http://arkiv.nmcu.org/publ/ssb\\_1999/index.html](http://arkiv.nmcu.org/publ/ssb_1999/index.html)

“The most striking example is available in two models from the manufacturer Kawasaki.”

“Both model ZX-7R and model ZZ-R 1100 must be described as potent Super Sport motorcycles. However, the smaller ZX-7R (750cc/122hk) has an accident involving at 46.7 per 1000, while the broader ZZ-R 1100 (1100cc/147hk) only has an accident involving at 4.5 per 1000.”

“This illustrates the fact that the motorcycle community understands and buys ZX-7R as a "hasty" street racer while ZZ-R 1100 is seen and purchased as a "good" "mild" image touring bike.”

“Similar examples were found in the model range to all major motorcycle manufacturers.”

“A comparison between two seemingly similar models from four different manufacturers - One model is perceived and purchased as "mild" image, the other as a street-racer. It turned out that the models with a "racing-image" were three times more often involved in accidents than the model with "mild image" touring bike. This is despite the fact that the "mild image" touring bike in several cases had significantly more power.”

“The problem may not be resolved by technical limitations of motorcycles because the accident involvement is not connected with characteristics such as volume, power, or the relationship between weight and power.”

“Furthermore, it emphasized without any doubt that the accident exposed SuperSport models have the safest driving characteristics and the best brakes of motorcycles on the market. It is therefore not motorcycles that there is anything wrong with, but the setting, competence and decisions of the riders.”

### **Swedish Study - 74 KW Power Limit for Motorcycles**

In 2003 the Institute of Transport Economics, published the “Motorcycle safety - a literature review and meta-analysis”<sup>13</sup>

The following headings contained in the summary reference power and risks of accident.

#### **Measures aimed at the motorcycle**

Studies find no link between power and risk of accidents. In this context, it concluded that it could not give any guarantee that banning the largest heavy motorcycle or regulating the use of these more stringently would be effective. The motorcycle "image" can be a variable of greater significance for accident involvement than the motorcycle engine. The evidence suggests that the driver and driver behaviour is the main cause of accidents, not the engine size of the motorcycle.

#### **Countermeasures aimed at the rider**

Combining power restriction of motorcycles with age limitations (graduated licensing) does not seem to have any effect on safety. Although the number of accidents with powerful motorcycles has decreased after the introduction of power restrictions, this positive effect is outnumbered by an increase in accidents with light motorcycles.

#### **Countermeasures aimed at the motorcycle**

There is no evidence of a relationship between accident risk and motorcycle engine size/effect. On this basis, it is concluded that banning or restricting the use of the most powerful motorcycles will probably not make any effect upon safety. The “image” of the motorcycle (especially the “super sport image”) seems to be of more relevance concerning accident involvement.”

---

<sup>13</sup> [http://www.vv.se/filer/27656/2\\_motorcykelsakerhet\\_en\\_litteraturstudie\\_och\\_meta\\_analys.pdf](http://www.vv.se/filer/27656/2_motorcykelsakerhet_en_litteraturstudie_och_meta_analys.pdf)

Translating the document from Swedish to English (reproduced in part below) Chapter 3.2 specifically deals with the regulation of engine power. The chapter also includes reference to other studies a full reference of documents is included on page 37.

### 3.2 The regulation of engine power

There has been a series of studies on the relationship between the volume of motor scooters and motorcycles and the risk of accidents with these vehicles.

Among such studies are:

- Kraus, Riggins and Franti 1975 (USA)
- Nordic Traficks akerhetsr ad 1975 (Sweden)
- Hurt, Ouellet and Thom 1981 (USA)
- Lekander 1983 (Sweden)
- K allberg 1986 (Finland)
- Carstensen 1987 (Denmark)
- Koch 1987 (Germany)
- Broughton 1988 (UK)
- Ingebrigtsen 1989 (Norway)
- Mayhew and Simpson 1989 (Canada)
- Ingebrigtsen 1990 (Norway)
- Taylor and Lockwood 1990 (UK)
- Rogerson, Lambert and Allan 1992 (Australia)
- Hayworth, Smitj, Brum and Pronk 1997 (Australia)
- Nilsson 2002 (Sweden)

Results from these studies vary quite a lot.

There is a tendency that the well-controlled studies found significantly weaker link between the engine and the risk of accidents than in poorly controlled studies.

With good controlled studies meant surveys that take into account the largest number possible of the other factors, in addition to the engine, affect the risk of accidents.

The best-controlled study is Ingebrigtsen (1990). This study controlled for gender, age, experience, motorcycle make, model, annual mileage and a target of risk appetite.

Controlled for these factors, was the link between the engine volume of heavy motorcycles and the relative risk of accidents as indicated in Table 7:

Table 7: Meta-analysis of the effect of engine volume of heavy motorcycles in the relative risk of accidents  
Increase of risk

<b>Motorcycle Volume</b>	<b>Best appropriation</b>	<b>Uncertainty in risk</b>
101-425 ccm	1,00	(0,85; 1,18)
426-625 ccm	1,03	(0,83; 1,28)
626-825 ccm	1,04	(0,86; 1,25)
826- ccm	1,05	(0,88; 1,26)

Kilde: Toei report 681/2003

On the basis of these figures it may be concluded that there is hardly any guaranteed benefits to ban the largest heavy motorcycles or regulate the use of these more stringently.

Schultz (1998) supports this conclusion and argues that the driver and driver behaviour is the main cause of accidents, not engine size of the motorcycle. “

## **TRL Report TRL607- 74 KW Power Limit for Motorcycles**

The TRL report, "The accident risks of motorcyclists Prepared for Road safety Division, Department for Transport B Sexton, C Baughan, M Elliott and G Maycock TRL report TRL607 – 2004" contains the findings of a study conducted on behalf of Road safety Division, Department for Transport.

"The objective of the study was to explore and quantify the interacting influences which determine motorcyclist accident (and casualty) liabilities."

### **4.3.3 Engine Size and type of bike**

For "all accidents", riders of motorcycles with engines up to 125cc have a much higher probability of accident involvement than riders of larger motorcycles, but beyond 125cc there is no obvious relationship between engine size and accident involvement.

Off course even if an apparent relationship between engine size and accident involvement size exists, this does not imply a casual link between the two because other factors, such as type of use, exposure and rider age and experience are all associated with the size of bike ridden as well as accident involvement.

In chapter, "7.4 Bike "size" as a risk factor" presents a complex analysis regarding engine size, engine power, mileage adjusted accident rate, rider age, experience, training, "rider dedication" (lack of access to alternative forms of transport or a need to minimise travel costs) had been allowed for, riders of bikes of over 125cc had an accident liability 15% lower than riders of smaller bikes.

**FEMA's position** is that it opposes the introduction of power limits for motorcycles.

### **Quadricycles (L6 & L7)**

- No change to current legislation
- Exclude quadricycles from the framework directive 2002/24/EC
- Return to original spirit of the legislation i.e. limiting the unladen mass of L6 to 350kg (400kg for L7 vehicles) limiting their length to 2.7m and width to 1.5m and the number of passengers to two (including the driver)
- Adding new requirements to the legislation based on M1 requirements

### **Off-road Quadricycles**

- No change to current legislation
- Exclude quadricycles from framework directive
- Add new safety requirements for all quadricycles
- Create a new category with specific requirements

### **FEMA - Quadricycles (L6 & L7) - Off-road Quadricycles**

FEMA represents the users of motorcycles (PTW's – Powered Two Wheelers – Motorcycles – Scooters and Mopeds).

Therefore FEMA does not have a position on the issues regarding Quadricycles (L6 &L7) and Off-road Quadricycles, as they are not viewed as motorcycles.

Some of these vehicles in their design and appearance are mistaken by the general public as being classed as cars.

However FEMA has certain concerns regarding the inclusion of these “vehicles” in accident statistics in some EU Member States statistics through licence requirements that includes them as a variant of the motorcycle.

### **Safety of Hydrogen Powered Category L Vehicles**

- No policy change. These vehicles could be individually type-approved at national level or subject to an exemption of 2002/24/EC
- Community Legislation. Adaptation of EU type –approval legislation to include provision on the safety of hydrogen-fuelled category L vehicles
- Adoption of legislation on hydrogen-powered category L vehicles at national level in Europe.

### ***FEMA – Safety of Hydrogen Powered Category L Vehicles***

FEMA is not in the position at this time to comment on these proposals.

### **Conclusions**

As stated above, motorcycle safety is a complex issue and one that cannot simply be “solved” or improved by vehicle technical regulations alone.

FEMA recognises that this consultation deals mainly with Vehicle Factors but other factors on motorcycle safety must be kept in mind during the consultation process.

The issues covered in this informal document are considerable and complex, however to summarise:

### **ABS/Coupling Braking Devices for Motorcycles**

In FEMA’s opinion, there must be no change to the current situation, i.e. ABS is not to be made mandatory.

### **Anti-Tampering for Mopeds, Motorcycles, Tricycles and Quadricycles**

FEMA’s opinion is that there must be no change to current legislation for Mopeds, Motorcycles and Tricycles. However, FEMA does not have a position on the issues regarding Quadricycles (L6 & L7) and Off-road Quadricycles, as FEMA does not view these vehicles as motorcycles and that these vehicles must be dealt with separately.

### **74 KW Power Limit for Motorcycles**

FEMA’s position is that it opposes the introduction of power limits for motorcycles and therefore rejects all the options considered, because evidence from the TNO 1997 report demonstrates that restrictive legislation based on engine capacity, power output or high power-to weight ratio would not reduce motorcycle casualties.

### **Safety of Hydrogen Powered Category L Vehicles**

FEMA is not in the position at this time to comment on these proposals.