

Minutes of 12th meeting of
the Informal Group on Frontal Impact

Crowthorne House

Nine Mile Ride

Wokingham

Berkshire

RG40 3GA UK

Wednesday, 30 March 2011

1. Welcome

The chairman Pierre Castaing opened the meeting and welcomed the delegates. The target of today's meeting is basically to develop a tentative agenda for GRSP.

2. Roll call

3. Adoption of the agenda

Doc. INF GR / FI-12-01

The Agenda was adopted.

4. Adoption of the Minutes of last Meeting

Doc. INF GR / FI-11-06

The minutes have not been discussed. Page 4 has been changed to express the UK emphasises diversity aspects. A paragraph has been added, saying:

“Mr. Knowles emphasised the importance of using dummies which were capable of assessing the frontal impact protection for a wide range of occupant ages and sizes. The question was whether this could be achieved in a single step or a two step process.”

5. Presentations

Doc. INF GR / FI-12-02

5.1. FIMCAR General Status Report

Mr Thomson gave an update of the FIMCAR project status, summarizing the major decision taken recently. In particular decisions with respect to the Full Width Test are difficult.

Mr. Castaing asked, whether it will be intended to measure belt force and otherwise suggested to do so. Mr. Schramm from EuroNCAP asked whether the use of a 5th percentile dummy on the driver side could be intended. Mr. Thomson replied that it is intended by FIMCAR to keep the 50th percentile to have comparison to the older data.

Mr. Pastor asked which test device could be most suitable to measure the stability of the crossbeam connection. Mr. Thomson replied that the PDB might best fit this requirement.

Mr. Pastor asked how many cars in the field will probably not comply with the intended vertical alignment requirement. Mr. Thomson replied that there is actually no real answer to this question.

Mr. O'Brien criticised that the amount of accident with bad structural interactions found by FIMCAR is too low to make a regulatory proposal.

Mr. Knowles asked whether any change in side impact aggressivity will be monitored by FIMCAR.

Mr. Thomson answered that the placement of an interaction zone and load spreading behind that zone might really improve the side impact performance of cars.

Mr. Pastor asked whether FIMCAR rated the structural interaction abilities a lower priority for small cars.

Mr. Thomson agreed and said that restraint improvements have shown to be more relevant for small cars.

Mr. Frost asked whether FIMCAR considers the fleet change in particular with regard to oncoming electromobility.

Mr. Thomson replied that this is an important issue to think about, but that it will be easier to adopt the new fleet to the new regulation and not vice versa.

Doc. INF GR / FI-12-03

5.2. FIMCAR – Full Width Test Status Report

Mr. Edwards gave an overview on the FIMCAR considerations for Full Width Testing. In particular FIMCAR could develop a test metric for a rigid wall testing or a deformable barrier test. However, just one metric can be fully developed for budget restrictions reasons.

In detail the rigid barrier will most probably need a second step test for cars which do not initially comply with the 581 zone requirement but need some PEAS structure test.

The deformable barrier can most probably omit such a second test.

Mr. Edwards said that however, the main goal of the full width test will be to improve the restraint system. Structural assessment will only bring a small benefit in addition.

Mr. Schramm said that EuroNCAP will go for the rigid barrier test.

Mr. Pott said that it is too early to concentrate on one test and to take a decision now.

Mr. Edwards said that the pdb offset test can be used complementary to assess PEAS structures.

Mr. Johannsen added that there will also be a different pulse connected with the choice of rigid or deformable barrier. Restraint systems will be developed differently by the manufacturers depending on which test configuration will be chosen.

Mr. Frost said that harmonization is important, meaning that manufacturers need not develop different products for different markets. That does not necessarily mean that the test procedures need to be similar. Harmonization does not dismiss a new test.

It will be an option to use the pdb offset test to develop a second stage assessment. From a regulatory point of view a second test depending on the car is not an option.

It was concluded that FIMCAR shall not promote an override barrier test. Focus shall be on the

load assessment behind the barrier.

5.3. EuroNCAP – Frontal Impact Biomechanics Workshop

Mr. Schramm reported on a EuroNCAP Biomechanics Workshop on Dummies. For the frontal impact assessment three criteria have been proposed.

1. Differential deflection & number of broken ribs (H3 might be too stiff)
2. Equivalent Deflection Criteria (Combination from Seat Belt Force and Chest Deflection) proposed by LAB
3. THMPR / RibEye (must be evaluated by EuroNCAP)

As regards the timing of EuroNCAP, a decision on an ODB barrier shall be taken by EuroNCAP by the third quarter of 2011. The testing protocol shall be finalized by the end of 2012.

Doc. INF GR / FI-12-04

5.4. NHTSA– THOR Update

Mr. Ridella gave an update on the status of the THOR NT and the MOD kit.

Mr Ammerlaan asked how many dummies actually do exist.

Mr. Ridella answered that there is 1 yet, and there will probably be another one at the end of 2011 and a next one in mid 2012.

Mr. Ridella said that NHTSA is open to include findings from the EU project THORAX whether this is not going to prolong the process of finalizing the THOR NT.

It is intended to bring the THOR NT into regulation by 2015. However, this is not just up to the research group (Ridella is speaking for) but timing considerations of the regulation group need to be seen as well.

Doc. INF GR / FI-12-05

5.5. LAB– Equivalent Deflection Criterion

Mr. Trosseille gave a presentation on the equivalent deflection criterion, developed by LAB.

6. Roadmap May 2011

Mr Castaing differentiates between short term (< 5 years) and long term (starting 2016/2017) solutions to bring frontal safety forward.

Short term solutions do include the French suggestion which was initially focused at car to car accidents and has been complemented by the issue of elderly and small occupants during the consultations of IWG R94.

INF GR /FI-12-06_draft

Long term solutions do include the option of waiting for further scientific results.

Mr. Frost commented that it is necessary to improve safety, but that measures must be justified by an impact assessment. The benefit needs to be maximized and for UK this can be achieved by safety diversity. Unfortunately safety diversity cannot be brought forward with the tools of today. Timing of new regulations is important, because such regulations as the R94 will not be changed very often, maybe once in 10 years. It would be bad to change something quickly, getting improved testing tools shortly after but not being able to change the regulation again.

Mr. Castaing said that targets are necessary, which will depend on the timeline. This means going forward in steps. First a test shall be implemented, followed by adding the THOR dummy and adding a 5th percentile dummy.

In particular FIMCAR will come with a test proposal in October 2011. For the 5th percentile we need to use the H3. For the injury assessment an improved chest criteria can be used.

Mr. Thomson expressed the willingness of the Swedish government to support a short term solution, going forward with the H3, but adding a child system testing.

Mr. Ammerlaan said that he is not sure on the test procedure. He does not believe that the THOR will be in place in due time.

Mr. Pott expressed the manufacturers concerns that it is not foreseeable how many steps will follow.

Also Mr. Broertjes reminded the group to be careful with “multiple steps” solutions, so that manufacturers will not be confronted with products which go out of date.

Mr. Schramm said that – provided this group will not support the introduction of the pdb until 2012 – EuroNCAP will most likely not introduce the pdb.

7. AOB

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8. Next Meetings

29th of June 2011, Paris, OICA office, Rue de Berri (10:00 – 17:00 full day)

Action Number	Action	Target Date	Action By	Comp Date
3.				
3.1.	Amend the minute of the first meeting	09/03/10	Secretary	09/03/10
3.2.	Amend the minute of the second meeting	09/03/10	Secretary	09/03/10
3.3.	Document on German accident analysis: for March meeting	09/03/10	Germany	postponed
3.4.	Document on French accident analysis: more detailed	09/03/10	France	09/03/10
3.5.	Injury mechanism (thorax injury)	09/03/10	Sweden	09/03/10
3.6.	Thorax Injury frequency	09/03/10	All	postponed
3.7.	Update of EU project SARAC I&II	09/03/10	Germany	postponed
3.8.	Input from VC-Compat	09/03/10	Sweden	postponed
3.9.	EES Calculation method =>Put the software on the PDB web site.	09/03/10	France	09/03/10
3.10.	PDB test result on heavy weight cars	09/03/10	Japan	09/03/10
3.11.	Update the Swedish document	09/03/10	Secretary	09/03/10
3.12.	VDA to present Document FI_03-09	09/03/10	VDA	09/03/10
3.13.	Input open questions, what is missing, next steps	09/03/10	All	open
4.				
4.1.	Document on German accident analysis: for May meeting	25/05/09	BASSt	25/05/09
4.2.	Document on French accident analysis: more detailed for May meeting	25/05/09	France	25/05/09
4.2.1.	Eliminate the older cars	25/05/09	France	25/05/09
4.2.2.	Check if there are 30 people also outside the car for the partner protection.	25/05/09	France	25/05/09
4.2.3.	Compare the fatality rate with the current two categories (single car and car-car)	25/05/09	France	25/05/09
4.3.	Thorax injury frequency :report similar data than Doc FI_03-06	25/05/09	All	
4.4.	Thorax injury frequency: update data from EU Project SARAC I&II	25/05/09	Germany	closed
4.5.	Results on car-car tests and explain the higher passenger loadings and the barrier calculation.	25/05/09	Japan	
4.6.	UK, NI, Japan are asked to prepare a position on the VDA presentation	25/05/09	All	open
4.7.	Amend Document FI_03-09 to focus on frontal impact	25/05/09	VDA	

Action Number	Action	Target Date	Action By	Comp Date
4.8.	Present the methodology for PDB introduction in the regulation.	25/05/09	France	25/05/09
5.				
5.1.	Propose solutions to solve the problem of car to car accident	15/09/09	All	
5.2.	Do similar exercise than Doc. INF GR / FI-05-04 proposed by Sweden	15/09/09	All	
6.				
6.1.	Extension of German Accident Analysis	7/12/09	BASSt	7/12/09
6.2.	Extension of French Accident Analysis	7/12/09	LAB	postponed
6.3.	European Accident Analysis (PART 1)	7/12/09	TRL	7/12/09
6.4.	Input from Accident Analysis done for EU-Project Thorax	7/12/09	TRL/BASSt	postponed
6.5.	Reference Collision Data based on Real World Accidents	7/12/09	BASSt	open
6.6.	Review Doc. INF GR / FI-05-07 presented by France	7/12/09	ALL	7/12/09
7.				
7.1.	Japanese benefit analysis for a Full Width Test for March 2010 meeting	04/03/10	Japan	postponed
7.2.	Extension of French Accident Analysis	04/03/10	France	04/03/10
7.3.	European Accident Analysis on behalf of the European Commission (PART 2)	04/03/10	TRL	postponed
7.4.	Input from Accident Analysis done for EU-Project THORAX	04/03/10	TRL / BASSt	postponed
7.5.	Reference Collision Data based on Real World Accidents	04/03/10	BASSt	open
7.6.	Time schedule	04/03/10	ALL	04/03/10
8.				
8.1.	Japanese benefit analysis for a Full Width Test	27/04/10	Japan	14/10/10
8.2.	Paper on the groups conclusions to present in May 2010 to GRSP	27/04/10	Chairman	14/10/10
8.3.	European Accident Analysis on behalf of the European Commission (PART 2)	27/04/10	TRL	14/10/10
8.4.	Input from Accident Analysis done for EU-Project THORAX	27/04/10	TRL	27/4/10
8.5.	Input from Accident Analysis done for EU-Project FIMCAR	27/04/10	TUB	14/10/10
8.6.	Input from Accident Analysis done for former EU-Project APROSYS	27/04/10	Mr. Schramm	cancelled

Document Number	Title	Origin
12.6	Draft Minutes of the 12 th Meeting of the informal group on frontal impact	Secretary
12.5	Equivalent Deflection – an improved chest criterion	LAB
12.4*	THOR NT Status Report	NHTSA
12.3	FIMCAR Full Width Test Status Report	TRL/FIMCAR
12.2	FIMCAR General Status Report	VTI/FIMCAR
12.1	Agenda of the 12 th Meeting of the informal group on frontal impact	Secretary
11.6	Draft Minutes of the 11 th Meeting of the informal group on frontal impact	Secretary
11.5	Stapp Paper 2003 on new thoracic injury criterion	Peugeot
11.4	Schedule for IWG R94	Group
11.3	GRSP Informal Group Frontal Impact_Timelines	OBrian
11.2	FIMCAR Workshop 19/1/11 Summary	TUB
11.1	Agenda of the 11 th Meeting of the informal group on frontal impact	Secretary
10.9	Draft Minutes of the 10 th Meeting of the informal group on frontal impact	Secretary
10.8	FIMCAR Status of Full Width Test Metric	BASt
10.7	FIMCAR Accident Analysis Findings	TRL
10.6	FIMCAR General Strategy	TUB
10.5	NTSEL Benefit analysis for a Full Width Test.	NTSEL
10.4	EC Accident Analysis – Final Report	TRL
10.3	EC Accident Analysis – Summary Presentation	TRL
10.2	GRSP IWG R94 Status Report May 2010	Chairman
10.1	Agenda of the 10 th Meeting of the informal group on frontal impact	Chairman

Annex 3 –Documents list

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9.8	Draft Minutes of the 9 th Meeting of the informal group on frontal impact	Secretary
9.7	Japanese benefit analysis for Full Widt Test – provisional	Japan
9.6	FIMCAR UK accident analysis headlines	TRL
9.5	FIMCAR presentation for GRSP IWG R94	TUB
9.4	COVER and THORAX work related to frontal impacts	TRL
9.3	EC Accident Analysis (provisional)	TRL
9.2	GRSP IWG R94 Draft Status Report May 2010	Chairman
9.1	Agenda of the 9 th Meeting of the informal group on frontal impact	Chairman
8.5	Minutes of the 8 th Meeting of the informal group on frontal impact	Secretary
8.4	Extension of French accident analysis to European Scope	France
8.3	Future steps – important points for R94 change	Secretary
8.2	IWG R94's GRSP position after December 2009 session	Chairman
8.1	Agenda of the 8 th Meeting of the informal group on frontal impact	Chairman
7.7	Minutes of the 7 th Meeting of the informal group on frontal impact	Secretary
7.6	Presentation on ideas to amend R94	Germany
7.5	Presentation on possibilities to avoid misuse of the PDB	France
7.4	Presentation to review open questions	Sweden
7.3	Presentation on the first results of a frontal impact study by order of the EU Commission	UK
7.2	Presentation on updated German accident analysis	Germany
7.1	Agenda of the 7 th Meeting of the informal group on frontal impact	Chairman
6.6	Draft Minutes of the 6 th Meeting of the informal group on frontal impact	Secretary
6.5	Update work on reference collision	Sweden

6.4	Presentation on MPDB problems	France
6.3	Presentation on frontal impact issues	UK
6.2	Report on frontal impact issues	EU-Commission
6.1	Agenda of the 6 th Meeting of the informal group on frontal impact	Chairman
5.10	Minutes of the 5 th Meeting of the informal group on frontal impact	Chairman
5.9	dummies-position in Japanese tests	Japan
5.8	joint-researches-USA-France-presentation	France/USA
5.7	French-answer-to-R94amendement-issues	France
5.6	R94-METHODOLOGIE-BENEFITS-May-2009	France
5.5	PDB Research in JPN Mini-Cars & Minivan & PC	Japan
5.4	Swedish-Accident Data Review	VTI
5.3	French-accident-data-analysis	LAB
5.2	German-accident-data-analysis	BASt
5.1	Agenda of the 5 th Meeting of the informal group on frontal impact	Chairman
4.6	Final minutes of the 4 th Meeting of the informal group on frontal impact	Secretary
4.5	Contract with EC: Provision of information for the development of frontal impact legislation	TRL
4.4	Performance as Test Procedures of the PDB and ODB Tests for the Light and Heavy Cars	Japan
4.3	Injuries Reported in Frontal Impacts in Swedish Accident Data	VTI
4.2	Work progress regarding Self-Protection and Partner-Protection	LAB
4.1	Agenda of the 4 th Meeting of the informal group on frontal impact	Chairman
3.12	Draft minutes of the 3 rd Meeting of the informal group on frontal impact	Secretary

3.11	PDB research in Japan	Japan
3.10	Mobile Progressive Deformable Barrier and Mobile Rigid Barrier Tests	BASt
3.09	Detailed discussion of the VDA position on the proposal for draft amendments to UN-ECE R94	VDA
3.08	Influence of the PDB on the pulse	France
3.07	Additional research on PDB and MPDB	Netherlands
3.06	Evolution of mortality rate and fatal injury frequencies in Frontal impact since 1990.	France
3.05	APROSYS - Development of a Full Width Frontal Impact Test for Europe	UK
3.04	Single Vehicle Collisions - Extracts from the RISER project.	Sweden
3.03	Accident analysis - Work progress regarding Self-Protection V2	LAB
3.02	Evaluation of the Effect of the Implemented Full-Width Frontal Impact Standard on Reduction of Fatalities in Japan	Japan
3.01	Agenda of the 3 rd Meeting of the informal group on frontal impact	Chairman
2.09	Minutes of the 2 nd Meeting of the informal group on frontal impact	Chairman
2.08	VDA position on the proposal for the draft amendments to Regulation N°94	VDA
2.07	Japan research on Regulation N°94 amendments	Japan
2.06	Outstanding issues with PDB test	UK
2.05	Accident analysis - Work progress regarding Self-Protection V1	LAB
2.04	First finding of additional research	Netherlands
2.03	UNECE Reg. 94 – Past, Present & Future	Netherlands
2.02	Issue to be resolved in evaluation of Regulation N°94 amendments	Secretary/Sweden
2.01	Agenda of the 2 nd Meeting of the informal group on frontal impact	Chairman
1.04	Draft Minutes of the 1 st Meeting of the informal group on frontal impact	Secretary

Annex 3 –Documents list**INF GR /FI-09-08_draft**

1.03	Agenda of the 1 st Meeting of the informal group on frontal impact	Chairman
1.02	Proposal of rules of procedure and terms of reference	Chairman
1.01	ECE/TRANS/WP.29/GRSP/2007/17 – Proposal for draft amendments	France