

**Meeting Minutes for the 9<sup>th</sup> meeting of the informal group on  
“Behaviour of M2 & M3 general construction in case of Fire Event (BMFE)”**  
(<https://wiki.unece.org/display/trans/GRSG-BMFE-09>)

Date:	2020, June 23 <sup>rd</sup>	10:00 – 12:00
	2020, June 23 <sup>rd</sup>	14:00 – 16:00
	2020, June 24 <sup>th</sup>	10:00 – 12:00
	2020, June 24 <sup>th</sup>	14:00 – 16:00

Venue: **Teams meeting**

1. Welcome and Roll call

Mr. Herveleu welcomed everyone to this online meeting

2. Adoption of the agenda (*BMFE-09-01*)

Agenda adopted, request from Mr. Becker to have more consistency in the way contracting parties contribute to the session and how it should be noted in the meeting minutes.

3. Validation of the minutes of the last meeting (*BMFE-08-18*)

Minutes validated with some changes to point 5.5 and 6.1

4. Accidentology & statistics: revision of the accidentology collection table (*BMFE-08-04*)

- Additional inputs [All experts]

- Proposal for classification regarding severity of fire events [Spain]

BMFE-08-04 rev.2 is shown by Insia. If new input available from other experts some counter proposals can be made.

Conclusion : Item will be kept in the agenda for the next meeting. Comments from experts are expected for the next session regarding classification scale and categories. [ALL]

5. Regulation No.107

5.1. Minimum performance level for fire detection

- Review on the informal document for the 118<sup>th</sup> GRSG session [Chair / Secretary] (*BMFE-09-02*)

Short review of the document that will be sent to GRSG in its next session. The document will be submitted for consultation, it is still an informal document.

Comment in the group from Insia on 7.5.1.5 – how does this temperature need to be measured? In a

technology neutral way, it is merely to double check the temperature. The technical service uses his own equipment, so the existing sentence is redundant. So a new wording is proposed an agreed upon, this can be found in document **BMFE-09-02e UNECE 107 Amendment for GRSG – rev.1**

**At the time of Type Approval, this temperature of detection shall be verified by the Technical Service, in accordance with the manufacturer’s recommendations, ~~with a detection technology different to that of the fire detection system under approval.~~**

Conclusion : document as revised will be send by the chair to GRSG secretary. [CHAIR]

- Potential way to test alarm system [Spain]

No new input under this point.

## 5.2. Optimization of luminous trajectories and functionalities (BMFE-09-07)

- Inputs on functionalities to improve identification for passengers evacuation [Spain]

This presentation is a comparison with the railway standards. In the presentation the questions in the end of the slides are very good points! What with an independent power supply? What with strength vs. impact? Lighting trajectory to the exits? Etc.. For the independent power supply there was a remark that it is not needed, this was ok for the group.

Van Hool mentions that a California regulation exists and the documents were send to add to the comparison table. (documents **BMFE-09-11e California Regulation 2017-06 TxtA ELS & BMFE-09-12e California Regulation 2016 SB-247 emergency lighting**)

Conclusion : Item will not be kept in the agenda for the next meeting. More info needed from the feedback on the last series of amendments 06.

## 5.3. Automated emergency exits

- Review on the informal document for the 118<sup>th</sup> GRSG session [Chair / Secretary] (*BMFE-09-02*)

In the proposal for the informal document a remark was made that class I is between square brackets, it was agreed to also add that [if fitted] should be added to the emergency lighting system acc. to paragraph 7.8.3.

7.5.7.1 In the case of vehicles of Classes [I], II, III and B, having the engine located to the rear of the driver’s compartment, in the event of activation of an alarm system:

- the emergency lighting system according to paragraph 7.8.3. **[, if fitted,]** shall automatically activate and, ....

- Opportunity to address, based on risk analysis if relevant [Industry (OICA/CLCCR) / France / Sweden] (BMFE-09-04)
  - Extra situations in addition to fire events
  - Automatic activation
  - Glass & hatches breaking systems

This presentation from OICA/CLCCR addresses a certain number of different risks with an increased risk score based on different situations where a bus must be stopped, relating to the traffic type and

the time needed.

The conclusion is that the automatic opening of the service doors is very difficult and might increase the risk for the passengers.

A comment made by Sweden was that every place outside of the bus is better than inside the bus when it is burning. A safe place to stop however is also needed for safety of the passengers.

An idea is to add the parking brake activation to the possible conditions to open the doors. Which is the first thing a bus driver does when he stops the bus? Parking brake or opening the doors? Might be that some seconds can be won, so more info from the driver is needed to include his influence.

- Conclusion : Item kept on the agenda for the next session. An update of this evaluation can be made considering the driver in the loop if considered as relevant. [OICA/CLCCR]Proposal France informal document for the GRSG session (France) (BMFE-09-09)

- Presentation France “Proposal to address electronic breaking devices for emergency windows and escape hatches and emergency control” (BMFE-09-10)

The presentation addressed some possible new requirements on the automatic window breaking hammer. Not only in a situation where the bus catches fire, but also in other situations where the passengers can activate the device.

A comment was made by Germany that it is not known if this device will improve the evacuation of the bus. It is difficult to see the outside when the window is broken so difficult to evaluate if it is safe to jump out. What about the BCR of these devices.

-Aguila made a separate BCR about the device, shown in document **BMFE-09-05e-BCR calculation update French review**.

In this document the BCR is more than 2, all exits can be opened in 1 action, but is this system 100% effective in saving all lives was questioned. Efficiency of the device could be more detailed. Germany wonders if A device that costs 3000€ could be ok for BCR and if another solution might be a more effective hammer because the manual hammer would stay next to the automatic system.

Conclusion : Accidentology reports might help in this matter, so the item remains on the agenda and experts are asked to look for available data. As a first step, accidentology data collection could be built in order to link injuries with issue on hammer use. As a second step, the potential value bring by an electronic device can be evaluated based on this repertoried cases. Deadline for the first step is set on August 15<sup>th</sup>. [ALL]

- Extra document report Dekra automatic opening (BMFE-09-14)
- Sweden’s view on the Dekra report is that an early detection will improve evacuation. In a normal fire event not so many casualties, so early detection will help! It is another story when an accident occurs first, many more casualties in that case. Some more discussion about the automatic opening, if the fire is in the engine compartment then it is needed to keep smoke out of the passenger compartment as long as possible. Also important is that if the driver is unconscious an automatic opening must be done. Criteria to open automatically must be defined.

Conclusion : Item kept for the next session, Mr. Becker proposed to invite the DEKRA expert to present the study in the next session. Experts invited to express their comments until next session. [ALL]

#### 5.4. Full scale test

- Synthesis of the project status [Aguila]
- No new input under this point

### 6. Regulation No.118

#### 6.1. Cost / Ratio analysis for material toxicity evaluations

- Update of BCR with confirmed inputs [Bast] (BMFE-09-05)
- Opportunity to have a BCR declined material per material [Bast]

For the BCR on toxicity it is decided to get some more inputs before 15<sup>th</sup> August.

Out of this BCR materials can have a certain level of efficiency. Some might have a higher BCR. Would a tighter toxicity requirement save more lives? Can we have requirements for those materials that represent 90% of the toxicity? Inhalation of the smoke is very bad. Next was a discussion on the way a better toxicity improves live savings of people in a fire event in the group or not. But another opinion was that better materials give more time to evacuate, especially for elderly people. Another opinion is that an early warning will improve far more than better toxicity.

If experts have more info on toxicity they are asked to share, if no data, the group must focus on other measures.

Conclusion : Item kept on agenda for the next session. As it was discussed for the lectronic hammer, accidentology data collection could be built in order to link injuries with issue on smoke toxicity. As a second step, the potential value bring by improved material on this point can be evaluated based on this repertoried cases. Deadline for the first step is set on August 15<sup>th</sup>. [ALL]

#### 6.2. Smoke toxicity development of a simplified method for interior materials used (BMFE-09-06)

- Status of study progress [BAM] :
  - 3. Performing the relevant tests (Oct 19) : in progress
  - 4. Defining an assessment method (April 2020) : forthcoming
  - 5. Defining recommendations (ca. Nov 2020) : forthcoming

First a short presentation by BAM was given regarding bus fire events. People in the bus can be still stuck in the seat and they are struck by the smoke and can't get out. Cases are known where other road users help evacuating some passenger like wheelchair users. But time to evacuate is very much influenced by the smoke of the materials. We should know the difference in the new seats compared with the old seats (vertical and horizontal burning rate), but it seems that not much difference is detected from 02 to 03 series of amendments.

The second presentation was given by BAM, BMFE-09-06, about the testing method is to assess which materials should be used, and try to use state of the art toxicity levels as low as possible in buses. Target is to define a recommendation for the testing materials to be used.

Important point is that a base criterium should be defined to make new requirements for the new materials. Germany, a balance has to be defined between BAM recommendations from a scientist view and BCR/alternative measures to define final efficiency of the regulation amendment.

Conclusion : Item kept for the next session, expecting new results from the study. A comparison can be done between behaviours of materials approved under UN n°118 series 01 versus 02. Adapted toxicity criteria and base requirement on material already approved according to UN n°118 could be defined for discussion.  
[BAM]

### 6.3. Flammability performance

- Review on the informal document for the 118th GRSG session [Chair / Secretary] (BMFE-09-03) No comments on the document content. In the transitional provisions series 09 is changed to 04 Conclusion : document as revised will be send by the chair to GRSG secretary. [CHAIR]
- Proposal for adapting existing test method for seats used in buses [Efectis] (BMFE-09-08)  
The testing method explained in the presentation can already be used. A comment was that it is a good idea to test the seats of coaches accordingly because of the comfortable seats, they have a big fire load.  
Question from Efectis to receive some seats to start the testing.

### 7. Next steps and meetings

- 10th meeting : 2-3 September in Climate & Environment French Ministry in Paris (La Défense) starting 2nd September at 10:30hrs and ending the 3rd September around 16:00hrs Details will be send.

### 8. A.O.B.

- BMFE-09-15e - Battery compartment – alarm system – discussion for experts' feedback  
Mr. Herveleu showed a diagram where the 2 possible places for detection are regulated: §7.5.1.5 for engine compartment and heater in the rear. §7.5.6.1 for separate compartments. Can the traction battery not be put in the second paragraph mentioned?  
The battery has separate requirements in R100. To discuss in the next session and compare this suggestion to what is in the R100.
- BMFE-09-13e - Spain asked if the plastic glazing is also in the scope for R118. According to the group R118 does not exempt plastic glazing from the regulation. RISE sent some suggestion for the text on metal and glass in paragraph 6.2.8.1 in Reg. 118 to cover more than just those materials.  
**“Parts made of materials belonging to Classes A ‘No contribution to fire’, listed in commission decision 96/603/EC (as amended) or materials classified as A1 according to EN 13501-1”**

Item kept on agenda for the next session, Insia will come with proposal.

- Gerflor mentioned that a new CLEPA document will be sent for the next session on performance comparison linked to the product. Is flammability more important than toxicity?

**PLEASE CONFIRM YOUR ATTENDANCE before June 16<sup>th</sup>**  
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