

Comments and/or Proposals regarding to The Revision of GTR22

- 1.V2X verification method & corrective action procedure
- 2.Proposal “**NOT** to the deletion of MPR_Matrix”

prepared by JAPAN

66th EVE IWG

7th December 2023

1.V2X verification method & corrective action procedure

<Conclusion>

Japan will accept “EC Proposal”.

<Reason>

Japan confirmed by the case study that there is no excessive burden on the OEMs/ Agencies in terms of control development, number of vehicles tested, etc.

<Suggestion>

The verbal exchange at EVE65 should be clearly (without misunderstanding) described in the WD of GTR22.

<Understanding of the verbal exchange>

If first test is NG, conduct the second test, if Pass, end.

If NG, conduct the third test, if Pass, end. If NG, fail judgment.

6.5.2 Pass or fail of reported virtual distance

A single test with one to three vehicles used in V2X or non-traction purposes, where the measured virtual distance deviates more than 5% from the reported virtual distance shall lead to a fail of the reported virtual distance.

<Suggestion to change>

A single test with **maximum three vehicles** used in V2X or non-traction purposes, where **all** the measured virtual distance deviates more than 5% from the reported virtual distance shall lead to a fail of the reported virtual distance.

verbal exchange at EVE65

I have to say, I mean, we can even put something here. Test one. We can put it one or one, two, three vehicles. Okay. This would provide the same way we have for other insurance verifications, at least, you know, some certainty.

If you have all three that fail, then it's a fail. If you have two that fail, then you need to test more. And if you have all three that pass, of course, it's a pass. That could be also an option. I mean, it's just that, you know, I thought, okay, this, this is pretty straightforward.

6.5 Corrective measures for reported virtual distance

In case of a failed reported virtual distance, all reported virtual distances for this battery family shall be **corrected by the deviation between the measured and reported values** according to point 6.5.1 and the procedure for verification of Part B shall be repeated to confirm the pass or fail. Corrective measures shall also be taken with the agreement of the responsible authority in order to correct the virtual distance **calculator** in all affected and future vehicles.

< Japan Understanding and Confirmation >

1. What does it mean to correct the deviation between the measured value and the reported value at fail judgment?

Corrected Virtual Distance = each Reported distance x (1 - (reported - measured)/measured)

Example: In the case of Part C Reported: 120, Measured: 100,
reported: 10,000 x (1 - (120 - 100)/100) = corrected: 8,000 @ Part B.

Confirmation: Which deviation of the 3 NG results should be used for correction? Average or Maximum ?

2. modify the calculation algorithm (change the program) for related vehicles and for the future

< Suggestion to change >

In case of a failed reported virtual distance, all reported virtual distances for this battery family shall be corrected by the **average** deviation between the measured and reported values according to point 6.5.1 and the procedure for verification of Part B shall be repeated to confirm the pass or fail. Corrective measures shall also be taken with the agreement of the responsible authority in order to correct the virtual distance calculator (**Algorithm**) in all affected and future vehicles

2. Proposal “ NOT to the deletion of MPR_Matrix

Conclusion.

Japan propose that MPR Matrix should be reinstated.

Reason

Japan believe that MPR relaxation is necessary as an option for economically challenged CPs who would consider the introduction of GTR22 into their regional regulation for BEV deployment.

~~43. The new MPR setting concept as depicted with the matrix below, Figure I/3, was proposed by Japan in order to let each Contracting Party decide its own MPR as option. The matrix exemplified the area to be defined as substandard category of MPR and the area that the MPR can be determined.~~

~~The IWG considered this proposal and decided to not adopt it during the first phase.~~

~~Figure I/3~~

~~Sample of MPR Matrix~~



Ichikawa and Abe:

exchanges in Japanese during the EVE65

1. The discussion history indicates that in CPs that intend to introduce BEVs in the future and where consumers are not economically able to afford expensive vehicles, consideration should be given to relaxing the MPR and deploying more BEVs in the areas where they are not economically able to afford expensive vehicles.
2. there was certainly no specific proposal from the CP at phase 2 as such, but there was also no discussion that it could be removed.

Penny (EC):

send me a written comment later!
it's undo a change. it's very easy.

If it's even possible to modify it.
Japan propose to add “and second”

43. The new MPR setting concept as depicted with the matrix below, Figure I/3, was proposed by Japan in order to let each Contracting Party decide its own MPR as option. The matrix exemplified the area to be defined as substandard category of MPR and the area that the MPR can be determined.

The IWG considered this proposal and decided to not adopt it during the first **and second** phase.

Figure I/3
Sample of MPR Matrix

Reference

History of MPR_Matrix

EVE-38-03e First concept proposal

MPR_Matrix concept proposal

The MPR is not determined uniformly, and the CP can select which frame of the matrix shown below.
Note) Color coding is an example of how easy it is to correlate the degree of battery degradation with the number of years of warranty. Details on how to select each value and frame are discussed at the IWG.

Examples

MPR	@3years 50,000km	@5years 80,000km	@8years 120,000km	@10years 160,000km
80% –	Yellow	Yellow	Green	Blue
70-80%	Orange	Yellow	Yellow	Green
60-70%	Yellow	Orange	Yellow	Yellow
50-60%	Red	Yellow	Orange	Yellow
40-50%	Red	Red	Yellow	Orange
-40%	Red	Red	Red	Red

Annotations on the table:

- A dashed white box with red arrows pointing right and up, labeled "higher" and "harder", is positioned over the top-right cells (80%–, 70-80%, @8years, @10years).
- A dashed white box with red arrows pointing left and down, labeled "lower" and "easier", is positioned over the bottom-left cells (40-50%, -40%, @3years, @5years).
- A dashed white box with red text "specification market penetration" is oriented diagonally across the middle of the table.

Background of the MPR _ Matrix Proposal

1) We agree with the need to define what is a substandard battery.

On the other hand, if the GTR is to be considered by CPs, it is appropriate to give a range of choices rather than single number representing all batteries, based on the following factors.

- **There are various types of Evs fulfilling different user needs.**
- The battery technology is in the process of development, and the usage conditions (Climate, charging infrastructure, etc.) of EV (battery) are not unified at present.
It is necessary to consider the future diversity of batteries in terms of materials, shapes, and systems, as well as the market.
- There are a variety of EV deployment strategies in each region to determine the category of EV to be used.

2) The assumption of how to utilize the previous page matrix is as follows.

- The validity of the selected MPR value should be agreed among all CPs and participants (not necessarily accept all the numbers proposed).
- Thresholds for substandard battery that should not be placed on the market will be defined and decided uniformly on the matrix (red frame) at EVE.

Japan Comment

2. Confirmed – Adopt a Minimum Performance Requirement (MPR) (or DPR) in Phase 1

a. **Decision:** MPR based on SOCC or SOCR or both?

<Japan stance>

There is no change from the stance presented at EVE 39.

1) In Phase 1, SOCC will be implemented at Part A/B,

SOCC will be implemented at Part A without criteria, and it will be monitored at Part B .

SOCC: Available to the customer and regulatory authorities

SOCC: Available to regulatory authorities

2) Based on the monitoring results in Phase 1, Part A SOCC criteria and Part B SOCC MPR will be determined in phase 2 .

b. **Decision:** Value of the MPR

i. **Decision:** Japanese MPR Matrix Proposal (EVE-38-03e)

<Japan stance>

1. Single number in Phase 1.

Regarding MPR matrix, the title, concept and sample matrix is described only in Annex. (See p.4)

[add a "placeholder" Annex X, titled "RESERVED: Annex X/MPR matrix", containing text.] such as

[In Phase 2, the substandard areas will be defined and each CP can decide MPR]

2. In Phase 2, Specific numbers of MPR , including whether to use or not a MPR matrix, will be discussed based on the results of Phase 1.

ii. **Decision:** Base MPR on TEMA model results

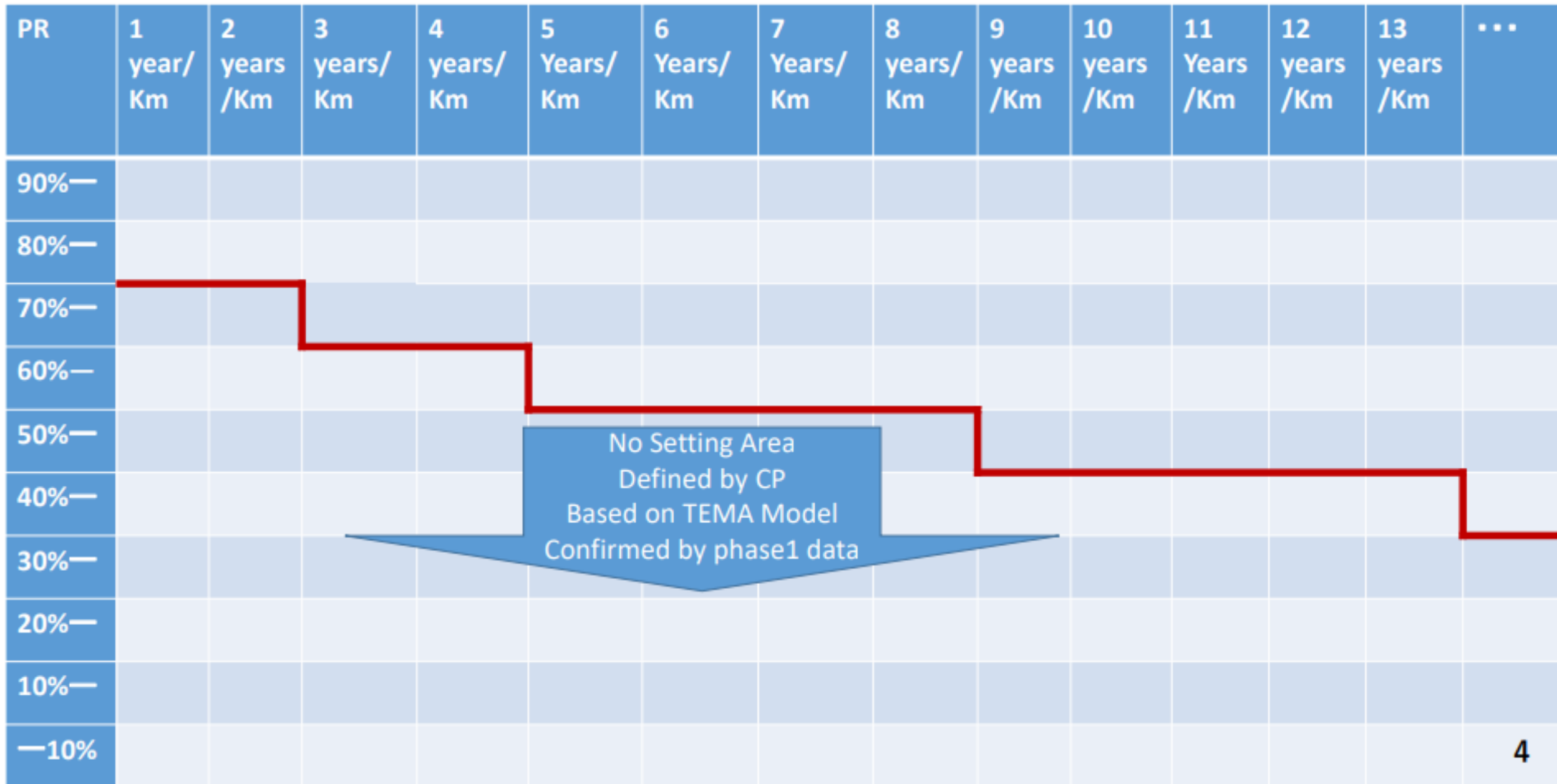
<Japan stance>

1. Request to continue discussions, using as starting point with the results of the TEMA model.

2. Use Phase 1 data to improve the TEMA model, including better correlation with the market, and further utilize it in Phase 2

proposed to add Annex x

In Phase 2, the substandard areas will be defined and each CP can decide MPR



MPR Matrix Concept

<Japan Comment at EVE42>

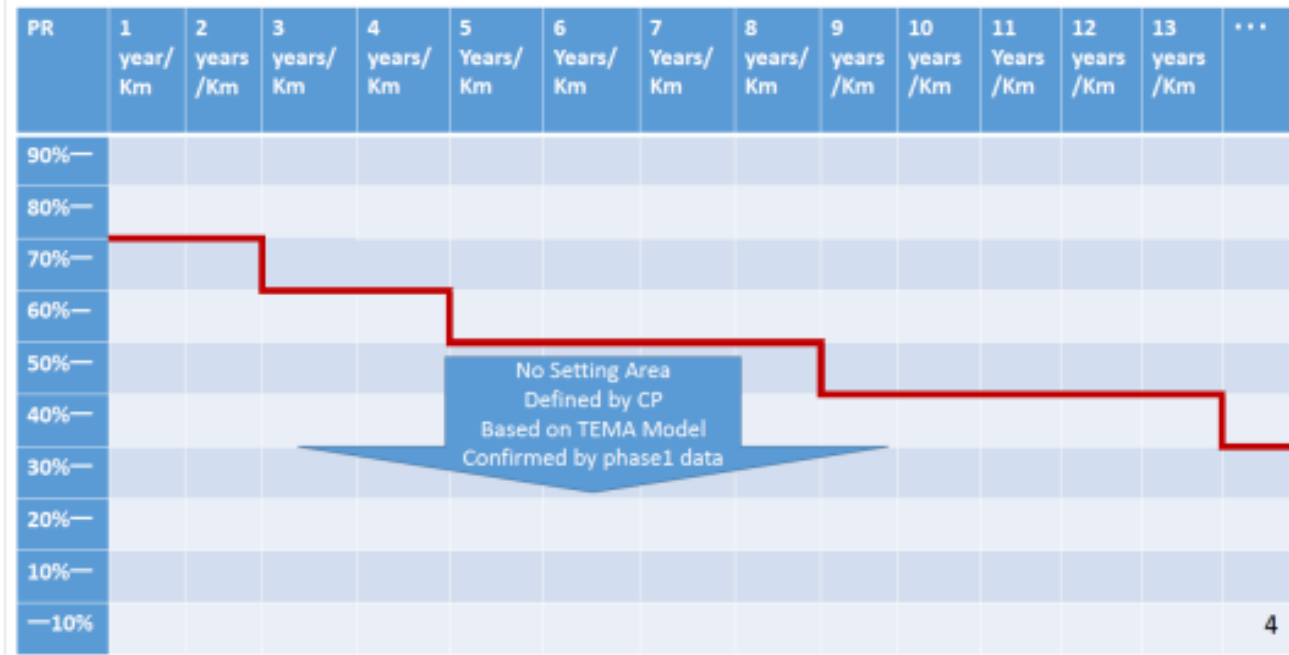
Re-posted for Reminder

This was proposed by Japan in the EVE40 (EVE 40 -03e) for phase 2.

add a "placeholder" Annex 2, titled "RESERVED: Annex X/MPR matrix", containing text.] such as
[In Phase 2, the substandard areas will be defined and each CP can decide MPR]

Sample MPR Matrix

In Phase 2, the substandard areas will be defined and each CP can decide MPR

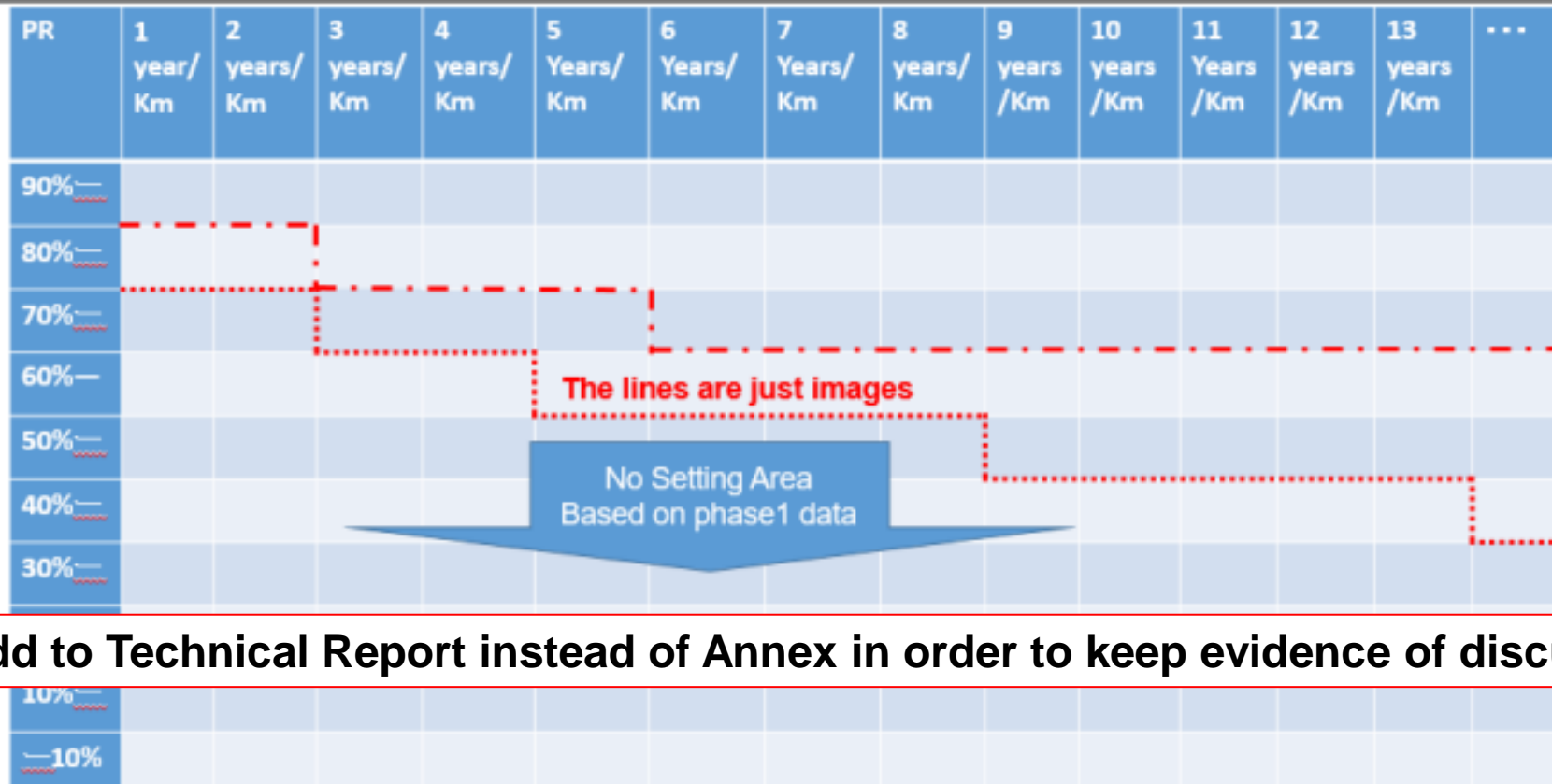


This proposal was not included in the Draft of GTR for Phase1 with the following comments which were added after the last IWG. However, Japan is also proposing this concept from the point of view of the harmonisation (see P7, 8, 9, 10).

There is no need for an Annex, since the sentence above Table 2 states that the values shall be monitored to inform the 2nd phase. But we should definitely not add that each CP can decide MPRs. This would be against harmonisation.

Suggested Statement in Technical Report: Example of MPR Expression Considering CP Situation

1. For Phase 2.
2. Based on the data collected by the unified evaluation method in Phase 1, and data from many countries and regions, it is expected that it will be possible to develop additional substandard battery criteria according to mileage and years, and.
3. Considering that the situation varies by country or region, CPs can select appropriate MPR for their specific market, as long as they are above the substandard battery criteria line.



Proposal to add to Technical Report instead of Annex in order to keep evidence of discussion.

EVE 48th Session

WebEx, May 18, 2021

> 210518 - EVE IWG Informal to amend GRPE-2021-18e.docx

18 5, 2021 by Panagiota Dilara

> 210518 - EVE IWG Informal to amend GRPE-2021-18e after meeting.docx

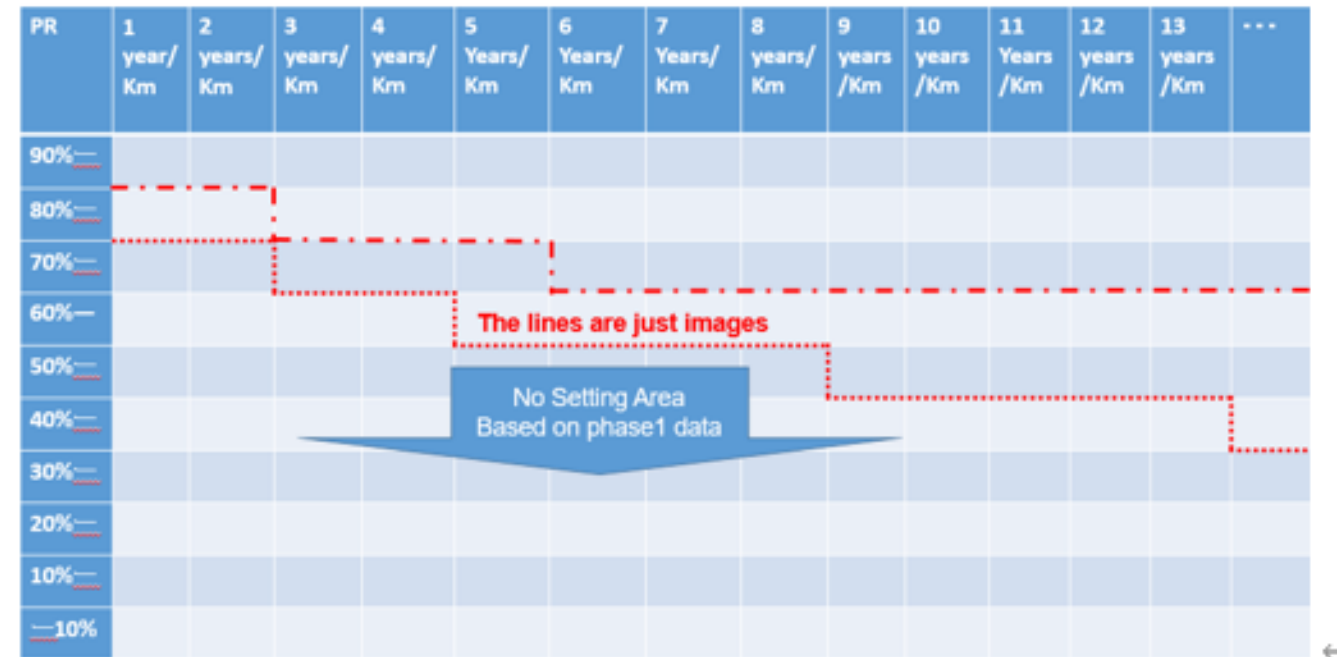
20 5, 2021 by Andrew Giallonardo

4338. The new MPR setting concept as depicted with the matrix below, figure XX, was proposed by Japan in order to let each contracting party decide its own MPR as option. The matrix exemplified the area to be defined as substandard category of MPR and the area that the MPR can be determined. ←

The IWG considered this proposal and decided to not adopt it during the first phase. ←

Figure XX ←

Sample of MPR Matrix ←



JPN

Plan to propose “Matrix concept” described in EVE43-03e ←

Adam Dack

JPN plan to provide the concrete text by May 18th IWG meeting ←

変更履歴とコメントの範囲