Comment for the N2 category threshold

TF-VS#10

12, July,2022

JAPAN AUTOMOBILE STANDARDS INTERNATIONALIZATION CENTER

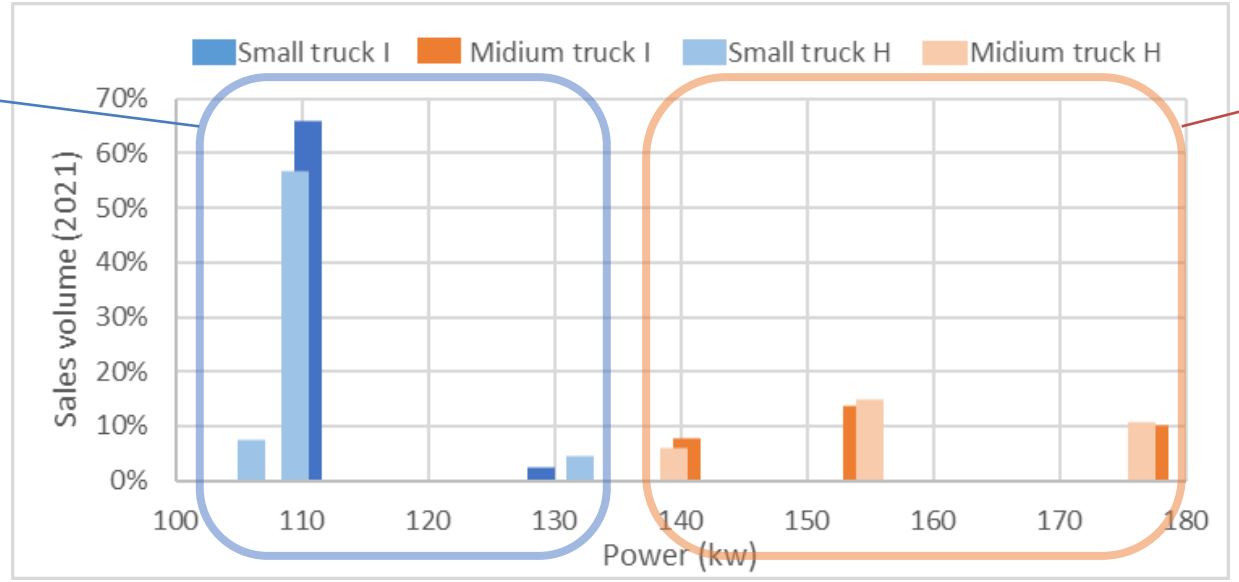
The discussion history of N2 subcategory threshold by GRB

- At the GRB#54, Germany proposed which N2 subcategory threshold to 150kw (GRB-54-03).
- Same GRB, Japan also proposed the N2 subcategory threshold to 125kw depend on current market situation (GRB-54-14).
- At the GRB#57, Japan proposed again to 135kw for the threshold as compromised proposal between Japan proposal and Germany proposal(GRB-57-22). And chairperson of GRB suggested to held the small group meeting by interested expert for making the compromised proposal as globally.
- Twice the small expert meeting discussion, and proposed and confirmation to EU Council was done, and the small expert group agreed the 135kw as N2 subcategory threshold.
- At the GRB#58, the small expert group was submitted the R51-03 draft as informal document with the 135kw for the N2 subcategory threshold, and GRB agreed to the N2 subcategory's threshold.

Japan comment for the N2 subcategory threshold

- The N2 subcategory classification was agreed by the GRB after discussions at the GRB small expert meeting and confirmation by the EU Council in order to make it acceptable to each country as a Global Regulation at the time of the establishment of R51-03.
- The change of the N2 subcategory threshold to 150kw divides the existing vehicle family in the Japan market, and does not match the actual market situation.
- The N2 subcategory threshold suggests maintaining the current 135kw.

N2 Small type truck
(106≦P ≦ 132kw)



N2 Medium type truck
(140≦P ≦ 177kw)

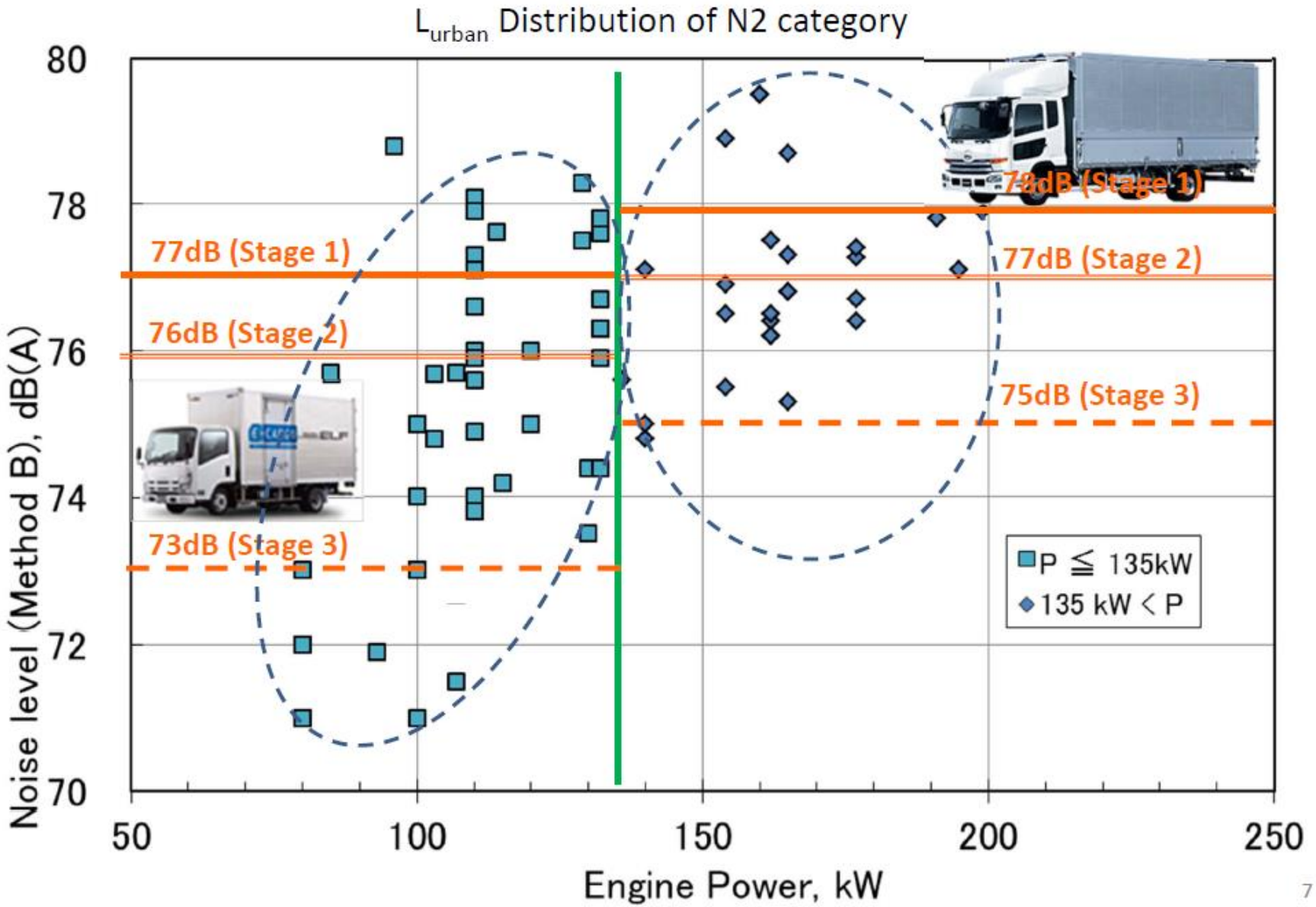
Recently situation of the N2 vehicle in Japan market

Appendix

Analysis of the proposed Sub-categories of N2 and M3

- At the last GRB session, GRB agreed to verify data and provide a basis for analysis for a power reference value of 160 kW in vehicle category M3 and for the reference value of 140 kW in vehicle category N2. And finally, GRB agreed to resume consideration on this subject at its February 2013 session on the basis of the above test data, if available, and on those existing provided by the experts from China, Japan and EC.
- Japan is the opinion that the threshold should be 135 kW especially for N2 and M3.
- Using Monitoring and Japanese database, the subcategories of N2 and M3 are analyzed as the following slides.

☐ Analysis of N2



➢ Line-ups of the Japanese N2s

- Japanese N2s are divided into two groups, one is “Small Type Truck” equipped with a small heavy duty engine (HDE) for urban driving, and the other is “Medium Type Truck” equipped with a medium HDE for inter-city driving mainly.

“Small Type Trucks” ($85 \leq P \leq 132$ [kW])

“Medium Type Trucks” ($132 \leq P \leq 199$ [kW])[1)]

1) Among “Medium Type Trucks”, there are those equipped with small power engines, such as 110 and 129 kW. Those engines are originally designed for “Small Type Trucks” but a few 8 ton GVW trucks equip with them.

Japanese Position on thresholds of N2 and M3 subcategories based on Data Analysis

1. M3
   - 180 kW is not appropriate because 180 kW threshold divides Japanese city buses, whose engine power ranges from 160 to 220 kW, into two subcategories.
   - Change from 135 kW to 150 kW seems to have no impact on the market in Japan and EU, so 150 kW threshold is appropriate as the international regulation.
2. N2
   - 140 kW or 150 kW threshold has a great impact on the Japanese market because it divides medium type trucks into two subgroups. Sales of 140 kW trucks shares 20 % of medium type trucks in Japan and the impact is not negligible.
   - In EU monitoring database, there is no N2 from 135 to 150 kW and the change from 150 kW to 135 kW seems to have no impact on the market in EU. 135 kW threshold is appropriate as the international regulation.

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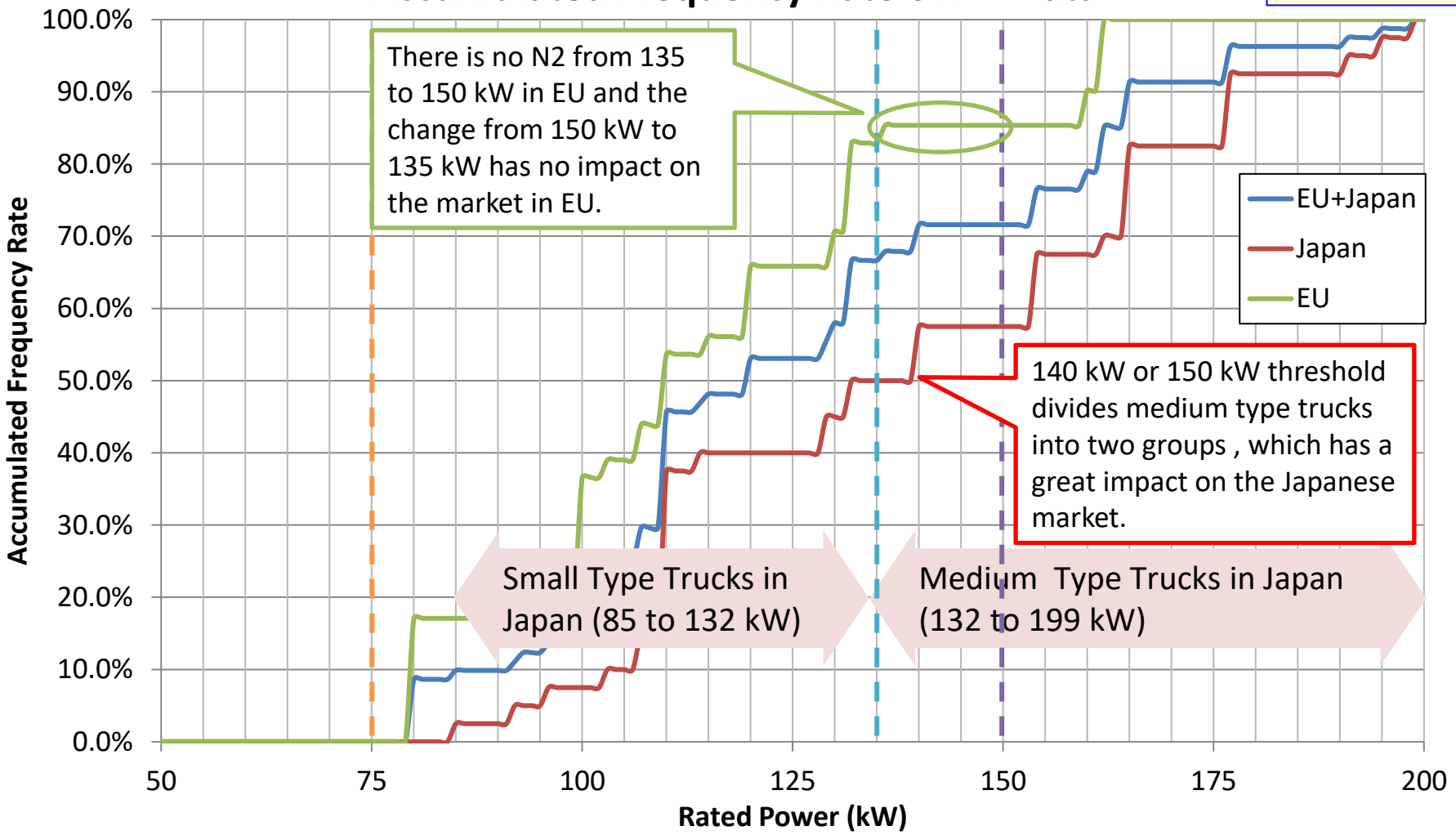
Accumulated Frequency Rate of N2 Data



Rated Power (kW)		~75	75~135	135~150	150~	Total
Database	EU+Japan	0(0.0%)	54(66.7%)	4(4.9%)	23(28.4%)	81
	Japan	0(0.0%)	20(50.0%)	3(7.5%)	17(42.5%)	40
	EU	0(0.0%)	34(82.9%)	1(2.5%)	6(14.6%)	41
Japanese Proposal		54(66.7%)		27(33.3%)		81
EC Proposal		0(0.0%)	58(71.6%)		23(28.4%)	81
EUP Revision		58(71.6%)			23(28.4%)	81

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Informal document GRV-58-04

Proposal for the 03 series of amendments to Regulation No. 51 (Noise of M and N categories of vehicles)

Submitted by the GRB Expert Group on Regulation 51

The text reproduced below was prepared by the GRB Expert Group on Regulation 51 consolidating the proposed 03 series of amendments to UN Regulation No 51 at their fourth meeting in Brussels, July 4th.

This document is based on ECE/TRANS/WP.29/GRB/2012/8 including GRB-57-17 OICA amendments on the transitional provision, ECE-TRANS-WP.29-GRB-2013-05 modified ETRTO amendments for the use of the ISO 10844:2011 test track specifications, input from the GRB Expert group meeting, modifications reflecting the latest decisions of the EU Council. The modification to the text of ECE/TRANS/WP.29/GRB/2012/8 are marked in bold for new and strikethrough for deleted characters.

~~Vehicle categories~~		~~Limit values (dB(A))~~
~~6.2.2.1.4.3.~~	~~with an engine power of 150 kW (ECE) or above~~	~~80~~

Veh. Cat.	Vehicles used for the carriage of passengers	Phase 1	Phase 2	Phase 3*/
M1	PMR ≤ 120kW/t	72	70	68
	PMR 120kW/t … 160kW/t	73	71	69
	PMR > 160kW/t	75	73	71
	PMR > 200kW/t, no. of seats ≤ 4, R-point height < 450mm	75	74	72
M2	GVW ≤ 2.5 t	72	70	69
	GVW 2.5 t ...3.5 t	74	72	71
M2	GVW > 3.5 t; P ≤ 135 kW	75	73	72
	GVW > 3.5 t; P > 135 kW	75	74	72
M3	P ≤ 150 kW	76	74	73
	P 150 kW … 250 kW	78	77	76
	P > 250 kW	80	78	77
Veh. Cat.	Vehicles used for the carriage of goods	Phase 1	Phase 2	Phase 3*/
N1	GVW ≤ 2,5 t	72	71	69
	GVW > 2,5 t	74	73	71
	[Engine Cap. < [ ]cc, PMR(GVW) ≤ 35 kW/t]	[74]	[72]	[70]
N2	P ≤ 135kW	77	75	74
	P > 135 kW	78	76	75
N3	P ≤ 150 kW	79	77	76
	P 150 kW … 250 kW	81	79	77
	P > 250 kW	82	81	79

Thank you!