



Mandatory Control of Noise on board ships

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The facts



- × 27 EU member States and EC proposed **mandatory** control of noise on board ships (MSC 83, Oct. 2007).
- × Co-sponsors submitted draft amendments to SOLAS regulation II-1/36 and a revision of IMO resolution A.468(XII) (DE 53, Feb. 2010).
 - A.468(XII) adopted in **1981** stipulates **recommended** noise limits.



Key points of proposals

- × Control of noise levels, not only in machinery spaces but also in **other spaces** of ships of 1600 GT (15 m) or more ?, should be made **mandatory**.
- × Compared with **recommendation** in A.468(XII), noise limits should be decreased by **5dB(A)** in general.
- × Estimation of noise levels is likely to be made **mandatory** for new ships.



Proposed noise limit

Room designation acc. to the annex to DE 53/10 (similar to DMA Ch. A III B(1)) acc. to IMO Res. A.468(XII)		Max. noise limit [db(A)]		
		acc. to DE 53/10	acc. to IMO Res. A.468(XII)	Δ
Work areas		4.2.1 Work spaces		
1.	Machinery spaces, including steering engine 4.2.1.1 Machinery spaces (continuously manned) 4.2.1.2 Machinery spaces (not continuously manned)	105	90 110	+15 -5
2.	In case of stopped machinery in machinery spaces	85	n.a.	
3.	Workshops 4.2.1.4 Workshops	80	85	-5
4.	Separate separator room 4.2.1.5 Non-specified work spaces	85	90	-5
5.	Machinery control rooms and manoeuvring rooms 4.2.1.3 Machinery control rooms	70	75	-5
6.	Galley 4.2.4.1 Galley, without food processing equipment operating 4.2.4.2 Serveries and pantries	70	75 75	-5 -5

* Quoted from DE 54/14/3 (CESA)

The 4th ASEF in Kyoto, 17-18 November 2010



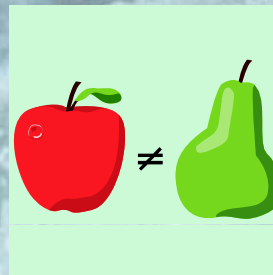
Proposed noise limit

4.2.2 Navigation Spaces				
7.	Wheelhouse, including radio room <i>4.2.2.1 Navigation bridge and chartrooms</i> <i>4.2.2.3 Radio rooms</i>	65	65 60	= -5
8.	Listening posts <i>4.2.2.2 Listening posts, incl. navigation bridge wings and windows</i>	70	70	=
9.	Offices in the accommodation and deck control rooms <i>4.2.3.5 Offices</i>	65	65	=
10.	Shops and newsagents <i>4.2.1.5 Non-specified work spaces</i>	65	90	-25
11.	Other work areas <i>4.2.1.5 Non-specified work spaces</i>	85	90	-5
Recreation areas				
4.2.3 Accommodation spaces				
12.	Treatment rooms (infirmary) <i>4.2.3.1 Cabins and hospital</i>	60	60	=
13.	Sleeping quarters <i>4.2.3.1 Cabins and hospital</i>	55	60	-5
14.	Recreational and exercise rooms <i>4.2.3.3 Recreation rooms</i>	65	65	=
15.	Messrooms and other internal accommodation spaces <i>4.2.3.2 Mess rooms</i>	60	65	-5
16.	External recreation areas <i>4.2.3.4 Open recreation areas</i>	70	75	-5



Technical problems involved

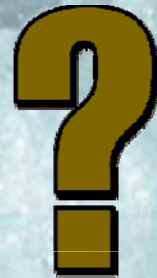
- × Noise limits in various spaces/rooms should be specified uniformly regardless of new ships, type or size, and further, without consideration of whether the space/rooms are being **continuously** manned or not.





Technical problems involved

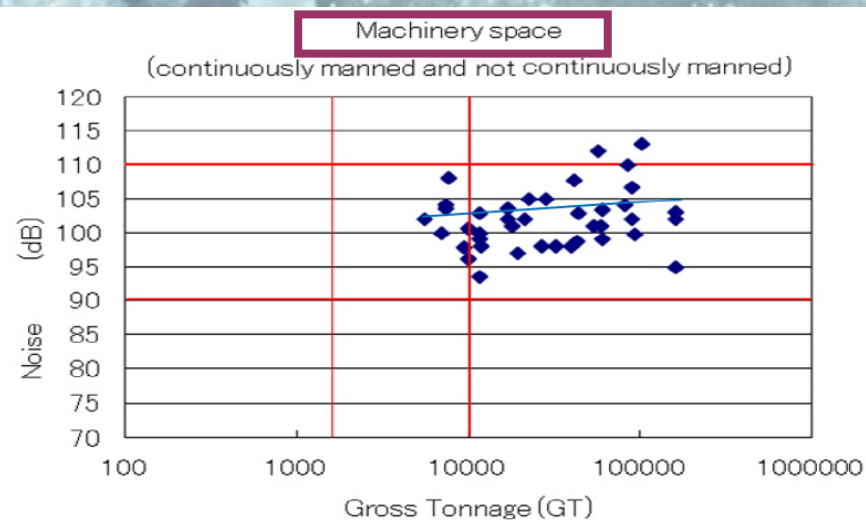
- × It is obvious that actual noise levels depend on the distance from source.
 - Questions about large compartment
 - Questions about small ships.
 - Questions about ships with special equipments



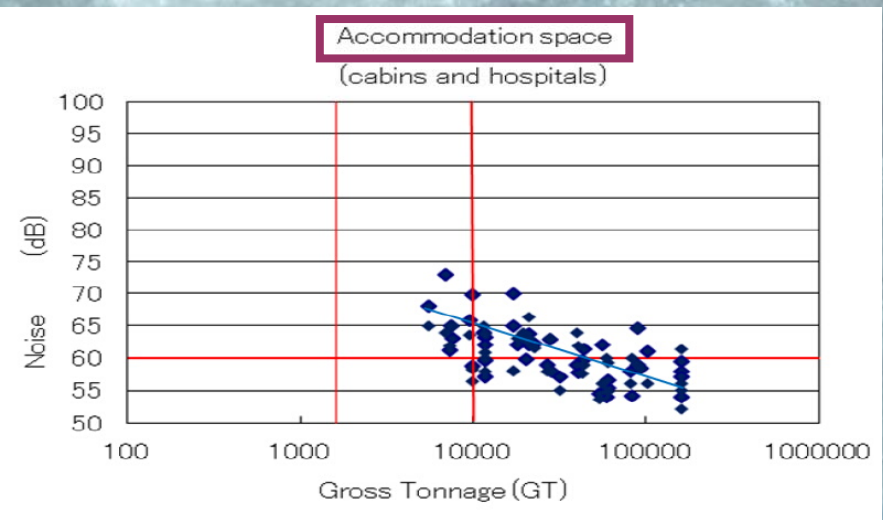


Noise level and ship size

Loose correlation can be observed.



Steep correlation can be observed.



* Quoted from DE 54/14/1/Corr.1 (Japan)

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Technical problems involved

- × Reduction by 5dB(A) means reduction of about $1/2$ or $2/3$ in terms of sound pressure level or energy respectively.
- × Some noise limits are equal to or less than noise level of **sources** such as main diesel engine.
- ×The practical feasibility of the noise control must be studied from every aspect with transparency.





Technical problems involved

- × The reliability of noise estimation depends on **methods**, which are directly connected with time and cost.
- × There is **no** noise estimation tool free from error..... ~ plus/minus 5dB(A)!?
- × Machinery and equipment of concurrent design do not always provide sufficiently accurate information on noise sources.






Positions of others concerned

- × The adverse effects of excessive noise on seafarers are recognized and initiative taken by co-sponsors is supported by all concerned.
- × Technical feasibility and justification of **proposed limits**, however, must be carefully studied (Marshall Islands et al., Japan, China and CESA).





Decision of DE 54 (Oct. 2010)

- × No retroaction should be taken to **existing** ships.
- × Type and size dependent **variation** of noise limitation should be considered.
- × Active noise-cancelling headsets should be provided for crews in machinery spaces. 
- × **Exemption** from certain requirements might be granted in special cases.



Decision of DE 54 (Oct. 2010)

- × A **CG** was established to submit a report to DE 55 by 14 Jan. 2011.
 - Finalization of draft amendments to A.468(XII)---Code on Noise Levels
 - Preparation of suggestions how revised A.468(XII) could be made mandatory
- × Adverse impacts of noise from ships on marine life should be considered.





Way forward



- × Shipbuilders should review **actual noise levels** in various spaces/rooms of all ship types and sizes.
- × Shipbuilders should also review the **reliability levels** of noise estimation.
- × Based on the above, shipbuilders should contribute information toward the development of amendments to SOLAS and a revision of A.468(XII).



Thank you for your attention!

