

Meeting: IMO, BLG Sub-Committee, Working Group of Air Pollution, The 2<sup>nd</sup> Meeting (BLG-WGAP2)

Date: 29<sup>th</sup> October ~ 2<sup>nd</sup> November, 2007

Place : Federal Ministry for Transport, Port and Urban Development Building, Berlin, Germany

#### Participant from NMRI

Eiichi Muraoka,  
Project Team for Environmentally  
Friendly Engine Development (also  
Center for International Cooperation)



#### Major Contributions:

**Mr.Muraoka** participated in NOx regulation reviewing discussion. He explained that Japan's submission of which 80% reduction of current regulation within 50nm of designated areas from coast and contributed to work for drawing up NOx regulation amendment.

He also participated in reviewing for NOx Technical Code discussion. He pointed out low-load engine requirements may cause big impact to Tier 2 engines due to new regulation introduction, and then insisted that contents of requirements and schedule should be further considered in order to make the regulation feasible.

Furthermore, he partly participated in drawing up discharge standard of EGCS (emission gas cleaning system) and standard of volatile organic compound and contributed to make consensus.

#### Major Outcome

##### 1. Tightening of NOx regulation to new-built engine

###### (1) Tier II standard

At BLG 11, in April 2007, Tier II standard was defined to implement in 2011, and the regulation value should be reduced from the current regulation value to 2g/kWh ~ 3.5g/kWh. At this meeting, this results and a submission by China were consideration. And the meeting concluded that

[15~13.5][14.5]g/kWh when n is less than 130rpm

$[45.0 \times n^{(-0.2)} - (3.5 \sim 2)][36.0 \times n^{(-0.2)}]$ g/kWh when n is 130 or more but less than 2000rpm;or

[7.8~6.3g/kWh][7.8g/kWh [when n is 2000 rpm or more][for engines designed for residual fuel; and [7.4]g/kWh for engines designed for distillate fuel; when n is 2000 rpm or more].

###### (2) Tier III

At BLG 11, in April 2007, based on the assumption of implement in 2015 or 2016, while highest standard of regulation value, 80% of reduction from current regulation, should be defined, as Japan and U.S. submitted, a thought of which ocean areas applicable to Tier III should be limited to areas and a thought of which, as Norway submitted, with 40% ~ 50% of reduction from current regulation, Tier III standard shall be applicable to all ocean areas, were considered as options of Tier III standard.

At this meeting, these three options were confirmed.

Option 1: 40%~50% reduction from Tier I and is applicable globally to all engines. (submitted by Norway)

Option 2: 83%~87% reduction from Tier I standards and is applicable only to all engines on board ships powered by large bore engines. The Tier III standard only applies in Emission Control Areas designated by the Organization. (submitted by U.S.)

Option 3: 80% of reduction from Tier I and is applicable to all engines. The Tier III standard only

applies in areas no more than a maximum distance from land, designated by coastal States or the Organization. (submitted by Japan)

## 2. Nox regulation to existing engines

Exhaust gas regulation from ships equipped with engines built before January 1, 2000, which are currently unregulated, was considered, based on submissions from Norway, Denmark, U.S. at BLG 11 and a submission from Germany at this meeting, and the following two options were put together.

### Option 1

#### (1) engines to be regulated

engines from ships built from [1980][1985][1990] to January 1, 2000, equipped with [power output more than 130kW][cylinder volume – more than [30L][60L], [below 130rpm]

#### (2) regulation value

Tier I standard

#### (3) Time for regulation implement

After [January 1, 2010], first periodical or intermediate survey

[ships built between January 1, 1985 and January 1, 1990: January 1, 2010

ships built between January 1, 1980 and January 1, 1985: January 1, 2011

ships built before 1980: January 1, 2012]

#### (4) Alternative measurement, etc. [

(Option 1) The Administration can exclude engines certified unadapted to the standard, as [unreasonable, impractical, or excessively costly]. In this case, the Administration should think an alternative measure (for example, the use of distillate oil, increase of harbour charge, refusal of calling in ports, etc.) in order to reduce NOx.

(Option 2) Engines certified unadapted to the standard, as [unreasonable, impractical, or excessively costly] should adapt the standard by [using of low-sulfur distillate oil][or other measures].

### Option 2

#### (1) Engine to be regulated

A diesel engine [with a per cylinder displacement at or above 30L]

#### (2) Regulation value

Tier I

#### (3) Time of regulation implement

The first regular or intermediate examination after [12 months] the Administration certifies each engine type applicable to the regulation and reports to IMO

## 3. Review of NOx Technical Code

Construction clarification on NOx Technical Code was discussed. In the case of certification of after-treatment system submitted by Japan, many issues, for example, an approval in accordance with the guideline should be added to NOx Technical Code, came to an agreement. Meanwhile, the contents would be discussed continuously.

The introduction of new requirement of new limit at every load point on test cycle, submitted by Norway, was not agreed, as the schedule for regulation introduction and the feasibility were debatable.

This issue would be considered continuously.

4. EGCS requirement

Water discharge criteria of wash water from EGCS and standards of system certification were discussed. Most of the guideline, except a part of discharge standard amendment, were finalized and would be considered at BLG 12. However, the submission from Japan, which the application of water discharge should be limited to the SECA(SO<sub>x</sub> emission control area), was not agreed. The water discharge standard amendment was essentially agreed to be applicable in harbor areas.

5. Others

Regulations of volatile organic compound, incinerator, ozone layer depletion compound, were discussed and agreed on requirements for making manuals, etc. The introduction of regulation on particulate matter and strengthening of fuel oil regulation were discussed, however, the contents were not agreed at the meeting, would be considered continuously.

**Next meeting schedule:**

The BLG 12 meeting is scheduled on 4<sup>th</sup> ~ 8<sup>th</sup> February, 2008, in London, U.K.