

**Meeting: International Maritime Organization (IMO) Sub-Committee on Bulk Liquids and Gases**  
**1st meeting of Air Pollution Working Group (BLG-APWG1)**

**Period: 13 Nov. to 17 Nov., 2006**

**Meeting place: Militarie Samfund, Oslo, Norway**

**Participants from NMRI**

**Mr. Michihiro Kameyama:**

Senior Researcher,  
Environment Assessment Group,  
Environment and Energy Department

**Mr. Eiichi Muraoka**

Chief Researcher,  
Centre for International Cooperation



Mr.Muraoka

Mr.Kameyama

**Major Contributions**

**Mr. Kameyama and Muraoka** participated in the discussion on reviewing NO<sub>x</sub> limit. They presented study results on geographically based standard for NO<sub>x</sub> regulation, which shows relationship between NO<sub>x</sub> concentration at land and total CO<sub>2</sub> emission volume where NO<sub>x</sub> emission limit is reduced for near-shore area whereas CO<sub>2</sub> reduction precedes the NO<sub>x</sub> reduction in ocean. They proposed that new regulation should take this concept and the Working Group agreed to consider this concept further as it may be utilized for on/off technologies at the next session.

**Mr. Kameyama** also participated in the discussion on reviewing SO<sub>x</sub> limit and contributed drafting of SO<sub>x</sub> limitation.

**Mr. Muraoka** also participated in the discussion on reviewing NO<sub>x</sub> Technical Code, which regulates test procedures of diesel engines for NO<sub>x</sub> emission. He proposed to add new method for on board measurement of NO<sub>x</sub> emission which is based on relationship between NO<sub>x</sub> [g/kWh] and NO<sub>x</sub> concentration value when O<sub>2</sub> concentration is 13%. However, the Meeting concluded it needs further consideration and agreed not to amend the Code at present.

**Major Outcomes of the Meeting**

**1. Reviewing NO<sub>x</sub> limit**

**(1) Limit for new ships**

The Working Group agreed two step approaches. With regard to implementation dates, the Group agreed 2010 should be appropriate for Tier 2 standard which is based on readily applicable technologies and 2015 should be appropriate for Tier 3 standard which is based on advanced technology.

And with regard to emission curve, the Group agreed the following options. Options will be considered further at the next session.

i) Limit determined by engine speed (not change current emission curve scheme)

ii) Different limit by following 3 categorized engines of design fuel types and each limit is determined by engine speed

- marine gas fuel (S<0.2%)
- marine diesel (S<2%)
- heavy fuel oil (S<4.5%)

**(2) Limit for existing ships**

The Group discussed scheme of limit for existing engines. However the Group could not conclude at this session and agreed to discuss further at the next session.

**(3) Geographically based standard**

The Group discussed geographically based standard proposed by Japan. Several members expressed views that this idea has benefit to environment and the Group agreed that this concept will be further discussed at the next session.

**2. Reviewing SO<sub>x</sub> Limit**

The Group agreed following options of sulphur capping. The options will be further consider at the next session.

Option1: not change current limit

Option2: not change for global limit but limit for SECA (SOx emission Control Area) is strengthened by 2 stage program.

1st stage (2010) 1.0%, 2nd stage (2015) 0.5%

Option3: use distillate only at global and sulphur capping is strengthened by 2 stage program.

But the Group agreed that year should be further considered taking into account availability of refining facility.

1st stage (2012) 1.0%, 2nd stage (2015) 0.5%

Option4: use both distillate and residual fuel sulphur capping is strengthened by 2 stage program.

1st stage (2012) 1.0%, 2nd stage (2015) 0.5%

### 3. Other air pollutant

With regard to VOC, the Group discussed requirements of operating procedures for tankers. The Group agreed this issue will be further discussed at the next session.

The Group also discussed Ozone depleting substances and Particulate matters. The Group did not conclude at this session but agreed to discuss further at the next session.

### 4. Reviewing NOx Technical Code

The Group discussed necessity of possible amendment of NOx technical Code. The Group agreed to several current regulations with regard to cooling water temperature and test fuel determination etc. should harmonize with ISO standards and IACS regulations. However due to time limitation, the Group could not discuss less than half of items proposed by member states. The Group agreed that rest items should be discussed at the next session.

### **Next Meeting Schedule**

BLG 11 will be held from 16 to 20 of April 2007 in London, U.K.