

**MEETING:** International Maritime Organization (IMO) Maritime Environment Protection Committee, 58<sup>th</sup> session (MEPC58)

**OUTLINE OF THE MEETING :** Mr. Yoshida, Director of Center for International Cooperation and 6 researchers from NMRI attended to the 58<sup>th</sup> Marine Environment Protection Committee (MEPC58), aiming at considering of GHG (Greenhouse Gas) reduction, Protocol revision for NOx/SOx reduction, development of New Treaty of ship-cycling, prevention of harmful aquatic organism movement through ballast water, and Formal Safety Assessment (FSA).

**DATE:** 6<sup>th</sup> to 10<sup>th</sup> October, 2008

**VENUE:** IMO Headquarters, London, UK

**PARTICIPANTS:** 97 IMO State Members, 54 other UN agencies and NGO members

**Attendance from NMRI:**

- Mr. Yoshida: Director, Centre for International Cooperation
- Mr. Muraoka: Senior Researcher, Project Team for Environmentally Friendly Engine Development
- Mr. Naruse: Senior Researcher, Structure and Materials Department
- Dr. Tsujimoto: Chief Researcher, Project Team for Ship Performance Index (10 mode at Sea)
- Dr. Yamada: Chief Researcher, Structure and Materials Department
- Dr. Kojima: Senior Researcher, Energy and Environment Assessment Department
- Ms. Kuroda: Researcher, Project Team for Ship Performance Index (10 mode at Sea)



Mr. Yoshida, as chairman of GHG WG



From left of the back row: Dr. Tsujimoto Mr. Naruse Dr. Kojima Dr. Yamada  
From left of the front row: Mr. Yoshida Mr. Muraoka Ms. Kuroda

**MAJOR CONTRIBUTIONS**

**Mr. Yoshida**, as Chairman of working group (WG) for GHG reduction, greatly contributed to making a global agreement for GHG reduction, such as further consideration of design index drawn in the inter-sessional meeting for GHG held in June 2008, with the amendment in that the effect by energy-saving devices would be reflected, development of management plan and operational index for GHG reduction for existing engines, and almost finalizing the guidance on the best practice for CO<sub>2</sub> reduction method for existing engine.

**Mr. Muraoka** participated in the drafting group for the adoption of MARPOL Annex VI, relating to NOx and SOx, and the working group for GHG reduction. He contributed to the agreement of Annex IV adoption in the drafting group and the agreement of working plan for index development necessary for Annex IV implementation.

**Dr. Tsujimoto** and Ms. Kuroda, while having a presentation for calculation method on decrease of ship speed in actual seas, participated in the working group for GHG reduction, explained about coefficient of decrease of ship speed in actual seas (fw), and contributed to international understanding for the necessity of the coefficient.

**Mr. Naruse** participated in the 4<sup>th</sup> Ship Recycle Interrim Meeting, held in the previous week, and Ship Recycle Drafting Group, MEPC58, and contributed to drafting the regulation and appendix for harmful substance management and these list, relevant to the finalization of Ship Recycle Protocol.

**Dr. Yamada** contributed to the consideration for Environmental Impact Assessment Development at FSA (Agenda 17). In particular, while introduced Japan's submission (written by Mr. Yamada) for oil spills damage and volume in order to develop the rational CATS (Cost to avert one tones of oil) value in this meeting, he made an effort to gain the understanding for Japan's point of view at WG and outside lobbying activities.

As the result, the consideration for oil spills cost Japan submitted gained understanding from a number of countries, such as Greece, China, INTERTANKO, BIMCO, Malaysia, etc., while CATS value (=60,000US\$/ton) submitted by Norway recognized apparently greater than actual cost. Hence, rational CATS value shall be developed, with making use of Japan's submission. The committee decided to continue to consider this issue in Correspondence Group (CG: considering on mail basis in between meetings).

**Dr. Kojima** participated in the review group for Harmful Aquatic Organism in Ballast Water, and contributed to the approval for consideration report at GESAMP-BWWG toward application for G9 approval.

## **MAJOR OUTCOME OF THE MEETING**

### GHG(Greenhouse Gas) from ships Control and regulation

Mr. Yoshida was appointed as Chairman of this working group (WG).

In regard to control and reduction of GHG from ships, MEPC has considered "Energy Efficiency Design Index (EEDI) for new ship", "Energy Efficiency Operational Index (EEOI) for existing ship", "Management plan for CO<sub>2</sub> emission", "Best practice for reduction of CO<sub>2</sub> emission" and "Market-based GHG emission control and reduction method". Among them, while MEPC considered of "Market-based GHG emission control and reduction method", which has had deep gap between developed countries and developing countries, WG considered of the other issues.

In consideration of, EEDI, China *et al* expressed that the name of "CO<sub>2</sub> design index for new ship" shall be revised as "Energy efficiency design index for new ship" and MEPC 58 agreed the proposal, while MEPC58 agreed to the interim index made by WG (by Chairman Yoshida). MEPC 58, while recognizing the opinion of Japan on the importance and necessity for coefficient of decrease of ship speed (*fw*) in actual seas, determined to leave it in the interim EEDI as 1 until the guidelines for the simulation or standard table/curve becomes available.

For EEOI, Correspondence Group (CG)(directed by Yoshida) has been established to draft an amendment for MEPC59.

Furthermore, "Best practice for reduction of CO<sub>2</sub> emission", which was almost finalized, MEPC 58 established consensus that it shall be used in "Management Plan for CO<sub>2</sub> emission", and shall be finalized at MEPC59, being consistent with the management plan. In order to promote the drafting of the above technical and operational GHG control and reduction methods, MEPC58 agreed to hold the 2<sup>nd</sup> interim working group conference for GHG emission from ships control/regulation from 9<sup>th</sup> to 13<sup>th</sup> March 2009(temporary) at IMO Headquarters, London, U.K.

For "Market-based GHG emission control/regulation method", Japan, Europe and the U.S. insisted that IMO should maintain "No more favorable treatment, IMO's principle" (Secretary General of IMO insisted on that during his opening speech at the meeting.), while developing countries (China, India, Brazil and South Africa), based on United Nations Framework Convention on Change (UNFCCC), insisted that it should be figured out under the principle of 'Common but differentiated responsibility: CBDR' prescribed in UNFCCC. Because both were opposed to each other, MEPC 58 agreed that further consideration shall be discussed at MEPC59.

An interim report on "Updated Study on Greenhouse Gas Emission from Ships" conducted by International Consortium (National Maritime Research Institute and Ocean Policy Research Foundation are the members of the consortium) was announced, that CO<sub>2</sub> emission from international shipping in 2007 was 843 million ton, equivalent to 3% of whole global CO<sub>2</sub> emission. This value has been derived from the contribution of NMRI to the consortium.

### Adoption of MARPOL Annex VI, Strengthening NOx, SOx Emission Regulation from Ships

MEPC58 adopted MARPOL Annex VI to strengthen air pollution protection regulation due to NOx, SOx, etc. , and the revision of NOx Technical Code, which defines test measurements for engine in order to achieve the emission limit in Annex VI.

In the meeting, Japan's submission, which the effective date should be shifted from March 1 to July 1 2010 in order to avoid the confusion when introducing the new regulations as much as possible and for smooth implementation, was included in the amendment, with a number of support. In regard to the criteria to define the emission control areas, while Germany and France have asked for relaxing the criteria and oil industries have asked for adding additional criteria, MEPC58 agreed and concluded not to change the definition drafted by MEPC57.

Furthermore, MEPC58 discussed the future working plan for developing guidelines after the adoption in order to smooth implementation. With great support from many states of the necessity of drafting guidelines for certification of SCR system, which Japan, Denmark and South Korea submitted, it agreed further consideration at BLG Sub-committee. aiming at an adoption at MEPC59

The guidelines to revise (.1~.4) and establish (.5~.8)at BLG are as follows. Furthermore, another 5 guidelines including guidelines for existing engine were listed as potentials to be developed in the future.

- 1 Guidelines for monitoring the world-wide average sulphur content of residual fuel oils supplied for use onboard ships (resolution MEPC.82(43));
- 2 Guidelines for the sampling of fuel oil for determination of compliance with MARPOL Annex VI (resolution MEPC.96(47));
- 3 Amendments to the revised survey guidelines under the Harmonized System of Survey and Certification (resolution MEPC.128(53));
- 4 Guidelines for port State control under MARPOL Annex VI (resolution MEPC.129(53)).
- 5 Guidelines for replacement engines not required to meet the Tier III limit, as required under regulation 13.2.2;
- 6 Guidelines on the provision of reception facilities, as required by regulation 17.2;
- 7 Any relevant guidelines pertaining to the equivalents set forth in regulation 4 and not covered by other guidelines such as the Guidelines for Exhaust Gas Cleaning System (MEPC.170(57)); and
- 8 Guidelines called for under paragraph 2.2.5.6 of the revised NOx Technical Code 2008( Note; this guideline is to regulate SCR certification).

#### Ship-Recycle

In regard to ship-recycle, while the consideration of new draft article which defines requirements of ships and recycle yards has been developed since MEPC54, March 2006, this meeting considered to approve the protocol.. The summary of discussion at this meeting is follows:

- (1) The plenary session agreed and approved the draft article, except a part of effective requirement of protocol.
- (2) The protocol is scheduled to adopt at a diplomatic conference held in Hong Kong, May 11<sup>th</sup> to 15<sup>th</sup> 2009.
- (3) In regard to effect requirement, concrete requirement setting (concrete number of state members, shipping tonnage, value and measurement method of recycling capacity) was not agreed, however, many state members supported Japan's submission in order to promote early ratification (to combine recycling capacity with the combination of the number of State members and shipping tonnage), shall be considered and determined at a diplomatic conference based on Japan's submission.
- (4) In regard to Recycle plans developed as per individual ship, the Administration of recycle state approved the recycle facilities, then flag state members shall verify it at the last verification.
- (5) ISO (International Organization for Standardization) has developed 'ISO standards for recycle facilities', conducted by a limited team, while they do not work together with IMO new protocol development, nor appropriate hearing of opinions from persons concerned. Since there is a serious concern of which double-standardization between current ISO standard and new IMO protocol (including relevant guideline) might be produced, IMO/MEPC ensured the view of that they have never required the standard developing to ISO, nor ISO standard development is unnecessary at the present.
- (6) The draft guideline for harmful substance inventory which has been developed by Japan, as a leader, and the draft guideline for recycle facilities, shall be considered at CG until MEPC59. Mr. Otsubo, Director for International Standards, Safety standards division, Maritime Bureau, MLIT, shall play a role of the head of CG MEPC59 shall consider and adopt these guidelines.

#### Harmful Aquatic Organism in Ballast Water

##### (1) Report on ratification

IMO Secretariat reported that the ratification of member states was 16 (France and Liberia were added) and shipping tonnage was 14.24%, as of October 2008.

##### (2) Ballast water sampling guideline (G2)

The 12<sup>th</sup> BLG meeting has finalized G2 draft (BLG12/17, annex 1). MEPC58 adopted it.

##### (3) Application of verification for ballast water treatment technology

Since further information for considering of application to ships built in 2010 would be necessary, while BWMS (Ballast Water Management System) has been approved, the meeting agreed and establish a review group (RG) at MEPC59.

(4) Discussion report at GESAMP-BWWG (Joint Group of Experts on the Scientific Aspects of Marine Environment Protection-Ballast Water Working Group) for application of G9 approval

MEPC agreed, as a prerequisite for all the issues would respect BWWG comments, that examination outcome at specialists' meeting that the basic approval for Ballast cleaner and TG (Toagousei Group) Environmental guard System (Japan), Greenship's Ballast Water Management System (Netherlands), and final approval of Electro-Clean System (Korea) were accepted.

Review group considered and concluded the final approval of Ocean Saver Ballast Water Management System (Norway) and Ecochlor Ballast Water Treatment System (Germany), on the other, approval of NK-03 Blue Ballast System(Korea) (MEPC58/2/8) did not finalize at this meeting.

At this plenary session, the basic approval of Ecochlor Ballast Water Treatment System was accepted based on the outcome.

The Committee agreed that the final approval for Ocean Saver Ballast Water Management System shall be considered both requirements and conditions that pointed out by GESAMP-BWWG After that, they will be reported to IMO when Norway obtains the type of approval. As a result, those issues are satisfied. In the case of NK-03 Blue Ballast System, it should be stated the final approval to be considered after submitting the further additional data with GESAMP-BWWG again.

#### Formal Safety Assessment (FSA)

FSA is a tool for developing rules based on cost-effectiveness in IMO. Currently after the development of FSA guideline for safety, the guideline for environment (particularly for oil spills) has been developed. Meanwhile, Denmark submitted to enforce 7 mandatory regulations, which include that double side/bottom in width of oil tanker shall be 0.5~1.0m wider than the present MARPOL convention, cost-effective based on FSA studies, IMO and each state's correspondence has been paid attention. In particular, it has been pointed out that the Danish FSA studies have used CATS=60,000US\$/ton, developed by SAFEDOR project, as a cost-effective criteria with regard to oil pollution, and consequently most of RCO are likely to be cost-effective due to extremely high CATS value.

For this issue, MEPC Chairman proposed to establish FSA-WG as the outcome at plenary session accordingly, an informal WG (working group) has been held with Professor Psaraftis, Greece (Chair at FSA-CG, Professor of University of Athens Technology) as Chair. However, the submission from Denmark shall be considered at MSC86, in which GoE (Group of Expert) for FSA studies shall be established, and this WG shall consider the rational CATS value development, based on Japan's submission. Attended parties were 11 state members of Greece (2 persons, one of them was WG Chair), United States (USCG), Turkey (Ministry of Environment, and other 3 persons), Norway (Dr. Skjong), Finland, Spain, Japan (Mr. Koiso, first secretary, Mr. Yamada), Canada, Malaysia, China (CCS), and New Zealand, and 3 parties of INTERTANKO, BIMCO and OCIMF.

In the informal WG, Chairman, at the beginning, explained the background of consideration and the summary of outcome of CG report, based on MEPC58/17, followed by Japan, based on MEPC58/17/1, explained the outcome based on data by IOPCF. In response, Greece, as Japan's submission can not compare with current CATS value, asked questions about equivalent CATS value. Japan explained graphically that the equivalent CATS value would be about 2,000~4,000US\$/ton order, according to calculation based on Japan's submission.

Whereas, Norway (Mr. Skjong) pointed not only cleaning cost but also amount of environment damage and assurance factor should be considered. Greece pointed, while SAFEDOR assumes the relation of oil spill losses with oil spill amount is linear for current CATS value, it is clearly not linear according to Japan's submission and other papers. Furthermore, they pointed out that SAFEDOR assumes environment damage and assurance factor shall be 2.75 times of cleaning cost, though, the calculation method has not been showed, nor it apparently would be below 10,000US\$/ton, even if multiplied by 2.75 at above 2,000~4,000US\$/ton.

Although various discussions about reasons for CATS difference between the two methods and rational CATS value have been done, they concluded difficult to finalize it at this WG. However, most of Members (excluding Norway and Turkey) agreed that the CATS threshold value, which evaluates cost-effectiveness, shall be far lower than CATS=60,000US\$/ton, based on Japan's submission in accordance with actual accident data, then this shall be recorded in the report. For other concerned issues such as Severity Index (SI) or FN linear tilt, CG shall continue to consider. WG also agreed the importance of maritime accident data base, available when checking agreed methods and applying. At the plenary session, Greece (Prof. Psaraftis), Chair of informal WG, announced the summary of outcome at the informal WG based on the agreed Report, WG required the Committee three Actions below.

- (1) To remain FSA as an agenda at MEPC59
- (2) To establish FSA-CG
- (3) To establish FSA-WG at the next MEPC59

The plenary session agreed to (1) and (2), whereas concluded to consider (3) for establishing after MEPC60.

**NEXT MEETING:**

Next MEPC59 meeting will be held on 13-17 July 2009.