

Comments at the panel discussion

1. General purpose and general direction on air pollution prevention
 - In regard to the general purpose on air pollution prevention, various points of view such as human health problems contributed by NO_x, SO_x, expense issues by developed and developing countries have been considered at several countries, IMO, and United Nations.
 - With inland regulations strengthened, the emission proportion of preventing air pollutant from ships has been raised. It is necessary to consider of rising social concerns about prevention of air pollution. Example of rising social concerns can be seen in Tokyo Metropolitan, State of California, EU, etc.
 - With regard to SO_x reduction, unless any improvement is proceeded at IMO by next year, EU will introduce stricter regulation than that of IMO, as amendment of EC direction, therefore, it is necessary for IMO to resolute clear policy on reduction.
 - Reduction of NO_x, SO_x, PM have been discussed individually so far. But it needs to consider effective policy on reduction in order to reduce as a whole.
 - Japan has promoted modal shift at present as CO₂ emission volume per distance, per cargo from ships has been less than that from other transportation mode. However, if no measure against preventing air pollution is taken, there is a possibility that it may affect the modal shift policy badly.

2. NO_x reduction for new engine
 - The NO_x limit for new engine should be as technologically low as possible.
 - Since the limit influences a huge number of engine manufacturers, shipping owners, it should be set as acceptable limit for them.
 - Especially, as for Tier3, it is necessary that ships equipped with SCR should be well examined and carry out research and development to solve the problems, as the present SCR performance has not been identified well yet.
 - Since reduction technologies are being development phase, it is important to develop reduction technologies to meet time schedule of future limit.
 - As the limit influences layout of engine room, it is necessary for shipbuilders to consider.
 - The proportion of air pollutant from ships is so high that it is an urgent matter to reduce it socially. Therefore we should recognize that we have to decide to be strengthened to the level of using after-treatment technologies, setting 70%, 80%, 90% aside internationally. If it can not be done internationally, regional regulation may be introduced.
 - Unless the final goal of the limit is clearly demonstrated at IMO, shipowners have difficulties in planning actions.
 - It is extremely difficult to install many systems such as ballast water treatment system, after treatment system for NO_x and after treatment system for SO_x in engine room at ballast water treatment system, after treatment system for NO_x and after treatment system for SO_x etc. in engine room at the same time though any of systems is large. Therefore it is necessary to consider all related time schedule of systems when reviewing the limit.

3. NO_x reduction for existing engine
 - If new requirements are applied to existing engines, it is necessary to amend NO_x Technical Code which determines test procedures. However, there are concerns that such amendment work may cause delay of other important matters.
 - For application of existing engine, it is necessary to regulate enough set-up time.
 - We should consider only in-engine technologies for exiting engines. Changing the layout of engine room should be avoided.
 - For large-capacity engine it is considered possible to reduce over 10% by in-engine technology.
 - For application of existing engines, it should be considered fully how old engine is applied to.
 - It is necessary to avoid congestion of docking due to repair of ships.
 - For verification of existing engine, current measurement is very difficult. It is important to develop new measurement method. It should be considered that applicable reduction technologies depends on individual engines.

4. SOx reduction
 - In case of introducing regulation to use of low- sulphur fuel oil, it should consider oil supply. With considering that enough volume have not supplied at the moment, it needs to have enough time until the supply make it possible timely.
 - It should not be permitted for ship side for not taking any action and leaving as a supply-side issue. It is so important to develop scrubber technology.
 - Although, in EU, sulphur content is considered to reduce gradually----like as 1.0% by 2010, 0.5% by 2015, 0.1 or 0.2% by 2020--. But the figure of 0.1% or 0.2% is considered as the figure beyond the technical limit of reduction by scrubber. So It may be an interium solution before switching distillate fuel.
 - It is expected to be a significant focus at IMO whether sulphur content regulation covers SECA or include general waters.
 - In order to promote the use of scrubber as a tool at market basis, a proposal related to compliance plan of SECA is proceeded to IMO.
 - At present, scrubber development to various technical challenge, such as improvement of SOx reduction performance, measure of preventing pipes from corrosion, residues and exhaust water treatment, have been proceeded.
 - It is predicted necessary to make high-sulphur contained fuel oil, which has been used for SOx and PM reduction, low-sulphurized.

5. Introduction for other substances of the concept of geographically based standard
 - With considering the impacts of SOx and PM are local, there is a possibility to introduce the concept of geographically based standard to other substance other than NOx. If this will bring a practical solution, it deserves to be considered.
 - While there are some concerns that installation of geographically based standard is difficult for verification, electronical machinery may help monitoring of ship's position.

6. Economical impact when new regulations is introduced
 - As for NOx, manufacturers and ship owners are considered to be main stakeholders. As for SOx, main stakeholders are considered to be refinery and shipowner.
 - There should not be big difference on economical burden between ships of member countries and ships of non-member states, especially due to difference of fuel oil price.
 - It is desirable to leave the market to select whether to use high-quality fuel oil or use treatment device. (opinion from hall)

7. Reduction of total environmental load
 - At the moment, many shipowners have contributed to reduce fuel consumption by low-speed voyaging. We should think this kind of control effort also reflect the regulation. (opinion from hall)
 - It is significant to have a quantity control point of view, and in the future ,it is necessary to consider in order to reduce environmental loading including land transportation, synthetically, not only ships but energy consumption on producing SCR reducing agent, for example. The pollution from ships at coastal area is so serious that prompt reaction is necessary. (opinion from hall)
 - While there are technical problems to verify whole environment load, we have difficulty in regulating at present. Although I believe a new synthetic regulation related to GHG indexing may be regulated in the future, considering the fact that the present pollution is so serious and reduction technology potential, it is unlikely to connect low-speed voyaging with the limits at present .

8. Time schedule of IMO meeting for reviewing
 - Since the issue is so complicated and affect to a huge number of stakeholders, it is unlikely to be finalized at next MEPC56 held in July, but will be considered further at BLG11, MEPC56, and intersessional meeting in November, and will be finalized at MEPC57 held in March, next year.