

LOCAL VESSELS ADVISORY COMMITTEE
Upgrading the Standard for Marine Light Diesel
Supplied in Hong Kong

Purpose

1. This paper seeks members' views on the proposal to upgrade the standard for marine light diesel.

Background

2. Local marine vessels, including river trade vessels, i.e. local vessels plying between Hong Kong and Mainland ports, pose a health impact to the population in the proximity of sea-front. The Chief Executive announced in Policy Address 2011 that Hong Kong will study, in collaboration with the relevant trades, ways to improve the quality of vessel fuels sold locally to reduce vessel emissions.

3. Local marine vessels, coastal vessels and cross boundary passenger vessels currently run on marine light diesel with a nominal sulphur limit of 0.5%. According to the test results of the oil companies, the sulphur content of light diesel oil delivered to Hong Kong ranged from 0.15% to 0.49% in the period from September 2009 to September 2011.

4. Lowering the sulphur content of marine light diesel is a practicable and effective means of reducing the emissions of sulphur dioxide (SO₂) and respirable suspended particulates (RSP), two major air pollutants. All Government vessels have since 2001 been using ultra-low sulphur diesel (ULSD), which has a sulphur content not exceeding 0.005%. In 2010, we completed a trial of powering non-kaito local ferries with ULSD. The conclusion is that the switch is technically feasible and there are in general no major impacts on fuel consumption, maintenance requirement and engine power output. This is consistent with the positive technical advice received from marine engine makers. The fuel cost for the trial fleet, however, increased by \$0.93 per litre (or 21%), mainly due to the additional handling costs for providing refilling service for the small trial fleet.

5. In light of the findings of the study and having regard to the small market of Hong Kong, when upgrading the standard for marine light diesel, we must apply the new standard to the whole sector instead of only a few types of vessels. This could maximise the environmental benefits and ensure that no additional handling costs would be incurred because of providing different fuels for different local

vessels.

6. During the trial on the use of ULSD by local ferries, there were concerns that the lubricity of a fuel might drop with its sulphur content. In this regard, we have specifically collected samples of ULSD for testing to ascertain if this could be a real concern. The results show that their lubricity is comparable to that of the current marine diesel and is in line with the findings of oil companies, which also regularly check the lubricity of their fuels. Oil companies have further advised that oil refineries follow an international standard, ISO 8217:2010 (Petroleum Products: Fuels (class F) -- Specifications of Marine Fuels), to ensure that the lubricity of their marine diesel comply with the requirements.

7. Given the above and the fact that local vessels in many overseas countries such as those in the USA are using 0.1% sulphur diesel, switching to 0.1% sulphur diesel, which has a higher sulphur content than ULSD (0.005%), should pose no technical problem to the engines of local vessels. In addition, starting from 1 July 2013, the Mainland will also tighten the sulphur content of the diesel fuels for use in engines, machines and other equipment, including marine vessels to 0.035%.

Proposal

8. We propose capping the sulphur content of locally supplied marine light diesel at 0.1%. We are consulting the relevant trade and stakeholders and subject to their views, we may conduct a trial to confirm the technical feasibility. We would make this proposed cap a mandatory requirement under the Air Pollution Control Ordinance.

Views Sought

9. Members are invited to give their views on the proposal.

Environmental Protection Department
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