

Greater Wellington Regional Council: Submission

To: Ministry of Transport

Submission on: MARPOL Annex VI

Thank you for the opportunity to submit on the question as to whether New Zealand should accede to Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL). The International Maritime Organization treaty regulates emissions that are harmful to public health, deplete the ozone layer and contribute to climate change.

Greater Wellington Regional Council (GWRC) has responsibilities under the Resource Management Act 1991 for the sustainable management of natural and physical resources including air, water, discharges to land and the coastal marine area.

The proposal

Annex VI aims are:

- regulating air pollutants that are harmful to humans, including sulphur oxides, nitrogen oxides, and soot;
- regulating greenhouse gases (GHGs) and ozone depleting substances; and
- setting out requirements for reception facilities and Port State Control, and requirements for Party States to enable their ships to demonstrate compliance with energy efficiency regulations when entering the ports of other Party States.

In particular, the Annex aims to reduce air borne sulphur contaminants emitted by ships burning heavy fuel oil by stating a fuel limit for sulphur.

The discussion paper also states that there are three ways for ships to meet the requirements of Annex VI:

- use 0.5 percent sulphur residual fuel,
- switch to diesel, or
- upgrade to newer ships that are more fuel efficient or *that are fitted with abatement technology*. (emphasis added)

Use of abatement technology in vessels allows them to continue to burn heavy fuel with higher sulphur content.

Greater Wellington Regional Council position

Greater Wellington Regional Council supports New Zealand acceding to the Annex as there are environmental quality gains to be achieved and accession improves the ability of New Zealand to meet climate change and greenhouse gas emission targets. Accession also allows NZ to fully participate in future debates and negotiations on policy and regulations to promote action on climate change and environmental issues.

We are particularly supportive of the ability, through the Treaty, to regulate air pollutants that are harmful to humans, including sulphur oxides, nitrogen oxides, and soot. There will be a reduction in shipping emissions around NZ ports and improvements in air quality in surrounding population centres.

The discussion paper highlights the costs and implications of reducing emissions by the ships which are burning heavy fuel oil switching to low sulphur fuel.

GWRC notes that an additional advantage of a move to lighter more refined fuels and diesel is that these fuels are less persistent in the environment in the event of a spill. This reduces the pollution risk from an incident and the clean-up operation required.

We acknowledge that many other countries are already signatories to the Annex. We do not however consider that relying on pressure exerted on shipping companies to reduce sulphur emissions by other countries being signatories to the Annex will necessarily lead to reductions in sulphur containing emissions (either airborne or water borne) in New Zealand waters.

Implications of the use of abatement technology

Regulation 4 of the Annex permits the fitting of an appliance or apparatus (abatement technology) in vessels which allows them to continue to burn fuel with higher sulphur content as long as these methods are at least as effective, in terms of emissions, as burning a low sulphur fuel.

Because of the costs of changing fuel types and using more expensive fuels, ships may choose to install abatement technology such as scrubbing systems to remove sulphur oxide and particulates from the airborne discharge. There are a variety of methods that may be employed to comply with the emission requirements and most have some form of residual that must be disposed of either on shore or via washwater at sea, depending on the system.

Open loop scrubbers pass the exhaust gasses through a sea water filter and this results in a discharge of acidic seawater from the vessel. A report from a shipping company gives discharges for a typical sized log ship of about 77,000 litres/hour while berthed in port and about 153,000/hour on route to and from port of salt water with a pH of 3.2. This pH represents a very acidic state; by comparison the pH of ambient seawater is around pH 8 (i.e. slightly alkaline). The immediate effect of a continuous high volume of water with very low pH entering the marine environment would be acute toxicity to any receiving biota prior to dilution and dispersion with tidal currents.

Seawater has a naturally high buffering capacity that can assimilate water with low pH when mixed. But if a ship is stationary at port and continuously discharging relatively high volumes, this mixing and buffering capacity in the immediate vicinity would be reduced under calm sea conditions, and exacerbated by tidal state (slack tide or flow/incoming tide).

The IMO guidelines for exhaust gas cleaning systems (EGCS) currently sets out recommendation for discharge limits for washwater being continuously discharged to be no less than pH 6.5 (for stationary vessels), achieved by mixing with ambient seawater prior to discharge (summarised in USEPA document EPA-800-R-006). The premise of this recommendation is the buffering capacity of ambient seawater will not reach saturation in a busy port environment, and that residual acid will be effectively be neutralised.

As a discharge into water, this would be controlled through the RMA framework and would be difficult to enforce (and to get consistency) on a region by region basis.

Internationally, several major port and jurisdictions have prohibited the use of open loop scrubbers within areas under their control. This includes Singapore, where a locally based shipping company is proposing to use open loop systems at sea and use low sulphur fuels when in restricted waters, in order to minimise cost and operate in a compliant manner.

Another abatement technology (closed loop scrubber) results in a sludge which is collected in a waste tank and then disposed of on shore to an appropriate disposal/treatment facility. Additional facilities may be required at ports to receive this from the ships. Any environmental effects around disposal of waste from this method would be controlled through the appropriate regulation of the disposal facility under the Resource Management Act.

These abatement systems can be bypassed for maintenance or if not required, thereby reducing costs for the vessel. If NZ does not accede to Annex VI, ships could choose to bypass scrubbers while in NZ waters and continue to discharge sulphur containing air contaminants legally. Our understanding is that a number of the cruise ships travelling around New Zealand have scrubbers fitted, but do not use them currently as they are not required to do so. The one exception being some cruise ships are using scrubbers in Fiordland due to an access agreement they have with Environment Southland.

Conclusion

Greater Wellington Regional Council supports New Zealand acceding to Annex VI.

In particular, we share the desired outcome of reducing sulphur and nitrogen oxides and particulate pollution in NZ waters from shipping as proposed by Annex VI. It would require ships to use a compliant method of emission control (either via fuel or exhaust gas treatment system) to their harmful emissions whilst operating in our jurisdiction.

To further support the intent of Annex VI, given the likely use of abatement technology to meet emission standards, with a consequent discharge to water, we ask that a national regulatory framework should be introduced. This is needed to control the discharge from abatement technology. A national regulation would be more efficient and effective than resource management plan or consent processes on a region-by-region basis for discharge resource consents for shipping.



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