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MARPOL Annex VI Submission
Ministry of Transport
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Sent by email: maritime@transport.govt.nz

MARPOL Annex VI Submission

Thank you for the opportunity to make submission on the consultation regarding New Zealand's potential accession to Annex VI of MARPOL.

KiwiRail, through its Interislander subsidiary, operates three passenger RoPax vessels between Wellington and Picton.

	Built	Flag	Ownership
ARATERE	1998	New Zealand	Owned
KAITAKI	1995	New Zealand	Owned
KAIARAHİ	1998	United Kingdom	Chartered

Summary

KiwiRail supports New Zealand's accession to MARPOL Annex VI, as this gives certainty to fuel suppliers and ship operators around the regulatory regime that will apply in New Zealand. For KiwiRail, having long term certainty of fuel and emissions regulations is necessary as we embark on a major fleet investment program.

More generally, KiwiRail supports the move to align domestic regulation with International rules, and would request that New Zealand regulation is always in alignment with IMO regulations by incorporating these rules by reference as far as is practical. This avoids the need to maintain compliance with dual regulatory regimes (for when the ship travels overseas) and means that International guidance on best practice implementation (provided through classification societies), is able to be used.

KiwiRail considers that it is important that New Zealand is able to participate in discussions at the IMO about future changes to greenhouse gas (GHG) measures for shipping, and notes that acceding to Annex VI is key to this.

In summary, KiwiRail supports early accession to Annex VI. We consider, that we could manage the process to transition our ships to be fully compliant based on an entry in force date on, or after, 1 January 2021.



Responses

Q1. New Zealand's stated ambition is to be a global leader on climate change and strengthen our credibility and influence in international climate negotiations. To enable New Zealand to influence climate change policy at the IMO we need to accede to Annex VI and be at the table to influence decisions. Do you agree? Please provide a detailed response. If you don't agree please provide reasons why.

KiwiRail supports New Zealand being able to influence future air pollution policy and regulation at IMO, specifically in relation to greenhouse gas emissions.

Acceding to Annex VI enables New Zealand to influence the implementation of GHG emissions regulation in the shipping industry. As highlighted by the consultation document, New Zealand relies on shipping for the majority of its imports and exports and will be disproportionately impacted if regulations to limit GHG emissions lead to substantial cost increases to ships owners and operators, or if New Zealand goods take a lot longer to reach their market. KiwiRail is a vital part of the freight supply chain for importers and exporters and so would be directly impacted by these effects.

KiwiRail is a member of the climate leaders coalition, the members of which have made a joint statement committing to taking climate change seriously. This involves:

- Measuring greenhouse gas emissions and publicly reporting on them
- Setting a public emissions reduction target consistent with keeping within 2° of warming
- Working with suppliers to reduce their greenhouse gas emissions

As a part of our commitment, KiwiRail would like to ensure New Zealand gains credibility and influence in international climate negotiations. By influencing other countries, New Zealand can further affect the environment positively through international treaties and legislation.

Q2. What are the costs associated with complying with SEEMP and EEDI requirements?

In order for KiwiRail to be able to sail to existing party states (such as Singapore and Australia for drydocking) we are required to be able to demonstrate compliance with the SEEMP and EEDI requirements of Annex VI. As such, for **Kaitaki** and **Aratere**, we already have SEEMP documents and International Air Pollution Prevention certificates, issued by Lloyds Register and DNVGL as statements of compliance (as they are unable to issue on behalf of New Zealand).

Therefore, KiwiRail would incur no additional costs.

For new ships, KiwiRail will need to build them in full compliance with all of the requirements of Annex VI, including the EEDI requirements. We note that there has been significant discussion around the specific application of the EEDI calculation requirements to RoRo Cargo and RoRo Passenger ships at IMO. However, as New Zealand is not a party state, the ability to influence these discussions and outcomes is limited.

Q3. What are the benefits associated with the EEDI and SEEMP requirements?

As noted above. In practice, we need to fully comply with the requirements irrespective of NZ acceding to Annex VI. However, we are unable to be issued with full certificates by our flag state at the current time.



In principle, KiwiRail supports New Zealand staying 100% in alignment with IMO requirements as this reduces confusion about the application of rules and potential duplication of requirements between NZ domestic regulations and International IMO requirements. Overall, we would like to see New Zealand adopting the rules in a manner that means amendments are automatically included in NZ regulations to ensure that we remain in alignment with MARPOL (as amended).

Q4. What does New Zealand need to bear in mind on slow steaming when considering accession to Annex VI? Please provide as much detail as possible?

As a purely domestic operator, KiwiRail is not able to comment on this directly.

Q5. What are the public health benefits of acceding to Annex VI?

Annex VI only applies to air pollution arising from shipping activities; these are a relatively small proportion of overall emissions in NZ. However, it does provide a framework for managing these emissions, in particular in relation to Nitrous Oxides, Sulphur Oxides, Ozone Depleting Substances and Greenhouse Gases.

Q6. What are the public health costs of acceding to Annex VI?

No Comments.

Q7. Are there any cost and benefits resulting from accession to Annex VI for the marine and built environments?

No comments.

Q8. Are there any public health or other environmental issues that we should be aware of when considering accession to Annex VI?

The use of scrubbers, as exhaust gas abatement technology, has the potential to materially impact water quality, particularly when operated as open loop systems, where sulphur removed from the exhaust is washed to the sea. It is noted that a number of countries are moving to ban the use of open loop scrubbers in their waters including Singapore. New Zealand should consider if discharges to water from scrubbers need to be regulated due to the risk of pollution to our harbours and coastal waters.

Given that most shipping trading in and out of New Zealand will need to comply with Annex VI requirements, this risk exists irrespective of New Zealand acceding to annex VI.

Q9. How would accession to Annex VI affect the limited number of domestic ships that visit overseas ports in Party States?

For KiwiRail, it would simplify the compliance obligations if New Zealand were to accede to Annex VI. In this situation, by default, the ships would be in full compliance with the obligations and would have NZ



certification issued to confirm this. Therefore risks of detention and non-compliance are mitigated and we would not be required to undertake additional surveys prior to making International voyages.

Q10. If we do not accede to Annex VI what are the issues that are likely to arise for the limited number of domestic ships that visit overseas ports in Party States?

The IMO has recently confirmed that it will not be permitted to carry fuel oil with a sulphur content greater than 0.5% on ships which are not fitted with scrubber technology. As a consequence, if a domestic ship travels outside of NZ territorial waters, they will be required to remove all non-compliant fuel oil from the ship and to clean the tanks before reloading compliant fuel. For KiwiRail, we are likely to incur costs of up to around \$0.25m for cleaning and disposal, plus around 2 weeks additional out of service time for the cleaning to take place.

Domestic NZ ships are unable to be issued with full International certificates to confirm compliance, therefore increasing the risk of detention by overseas port state control officers.

Q11. Are there any other issues affecting New Zealand ships visiting the ports of Party States we should be aware of?

There is a risk that the ships may not be compliant with Annex VI requirements. Examples include the reporting of fuel usage under Reg.22.2, which was required to commence 12 months prior to 1 Jan 2020, or the installation of new engines, which would need to meet NOx emissions requirements since 2000 under Reg.13.

Q12. If we do not accede to Annex VI do you have any suggestions as to how to deal with New Zealand ships visiting overseas ports in Party States?

In these circumstances, New Zealand should consider attempting to establish an MOU with Australia (the most likely destination for domestic ships as it is the closest available drydock), covering off how they would enforce the Annex VI requirements for NZ flag ships, specifically this should look at the issue of ability to retain fuel with greater than 0.5% sulphur content, in isolated storage on-board, during temporary voyages outside of NZ waters.

Q13. What are the benefits of moving to fuel with a sulphur limit of 0.5 percent?

We are not aware of technical benefits. Environmentally, the switch to lower sulphur fuels will reduce air emissions of sulphur.

Q14. What are the costs associated with moving to a low sulphur fuel limit of 0.5 percent?

At this stage the only viable alternative fuel available in NZ is diesel. This is presently significantly more expensive than the existing residual fuel grade used by the ferries. It is expected that there will be considerable supply pressure for diesel, and this will lead to price spikes in the short to medium term, following implementation of Annex VI internationally in January 2020.



There is no guidance from any of the fuel companies about what fuel grades will be available in New Zealand after 1 Jan 2020, when International ships will need to comply.

Q15. How easy would it be for the global shipping industry to source 0.5 percent sulphur fuel?

This is presently unknown. The assumption appears to be that low sulphur residual fuels will not be consistently available so most ships will operate on Marine Diesel Oil (MDO) or Marine Gas Oil (MGO).

Q16. Would Marsden Point be able to produce low sulphur fuel?

Not known. However fuel company advice to us today is that they are not intending to.

Note that Marsden Point presently has limited storage capacity for marine fuel grades, so will not be able to import and hold stock of multiple low sulphur grades (180 CSt and 380 CSt) and maintain separate grades for scrubber fitted (and NZ domestic ships) operating on high sulphur fuels.

Q17. If yes, would Marsden Point be able to produce enough quantities of low sulphur fuel at reasonable cost?

Unknown.

As noted above. Storage and NZ supply chain decisions for marine fuels will be complex. The delays in implementing Annex VI domestically have only exacerbated this due to a lack of certainty of the applicable regulatory environment for fuel suppliers.

Q18. If not, where and how will international visiting ships obtain their low sulphur fuel?

Visiting international ships are likely to try to carry sufficient fuel on-board to avoid the need to bunker in NZ. If low sulphur fuel is made available in NZ, it is likely to be imported, and will probably only by the heaviest grade.

Q19. How would a low sulphur fuel requirement affect our domestic shipping industry?

Compliant low sulphur fuels will be more expensive, so operating costs will increase significantly. However, it will mean that domestic and international regulations are aligned, reducing risks of non-compliance.

Q20. If low sulphur fuel is unavailable, is diesel the most likely option that will be used?

Yes. Diesel is likely to be the only viable low sulphur fuel locally.

Note, some marine fuel suppliers may consider importing a specialist marine grade of diesel, with higher sulphur contents than the 10ppm gasoil that is currently produced at Marsden Point, such as MDO.

Q21. What are the benefits of switching to diesel?

Reduced requirements for process and storage heating on-board.



Reduced engine wear, so periods between major overhauls are extended.

Q22. What are the costs of switching to diesel?

In order to operate continuously on diesel some changes will be necessary to modify the fuel systems of the engines. Specifically, fuel coolers will need to be fitted to the engine fuel circuits. Guidance from engine makers also indicates that we may need to replace all the exhaust valve seats / seats due to increased valve wear. As diesel has much lower viscosity, it is likely that there will be issues with fuel leaks, requiring repairs and renewals to be made.

The ships have very low quantities of diesel storage as built. However for continued operation on diesel we would use the existing heavy fuel storage tanks. This will require the tanks to be cleaned and emptied prior to re-bunkering with diesel. There will be a cost of approximately \$40k per tank to clean and dispose of non-compliant fuel.

Diesel fuel costs are higher than heavy fuel currently. This gap will likely increase significantly after the international implementation of Annex VI sulphur cap on 1 Jan 2020 due to supply constraints.

Q23. Are ships likely to continue using 3.5 percent fuel but with abatement technology?

A limited number of ships are installing scrubbers. However they are not suitable for retrofitting to all ships and there is relatively limited production capacity to supply new scrubbers to market. Long term uncertainty around controls on waste water discharges from 'open loop' type scrubbers will mean some owners will be reluctant to use this technology.

Q24. What are the costs associated with using abatement technology?

Scrubbers require significant auxiliary pumps and services to operate, these can cause up to a 10% increase in fuel usage.

For 'closed loop' and 'hybrid' type scrubbers. The supply and disposal of chemicals and wash water will likely be a significant cost as the volumes involved are very significant.

There will be increased maintenance requirements due to the additional equipment. Indicatively, some owners have suggested that the service life of installed scrubbers may be quite limited, requiring replacement within a relatively short lifespan.

Q25. What are the benefits of using abatement technology?

Ships fitted with scrubbers will be able to continue using high sulphur fuels. These will be very significantly cheaper than low sulphur alternatives. Technically, scrubber installations do not require many changes to existing machinery space designs for engines and propulsion equipment.

Q26. How easy will it be to install abatement technology in ships already in service?

For KiwiRail, there will be no practical way of installing scrubbers on its existing fleet. Scrubbers are physically large, heavy and require a lot of auxiliary equipment to support them. For existing ships, there is



limited space to make the installation, without severely compromising available passenger and cargo space. This is compounded, as our ships have multi engine installations (6 engines), increasing the size and complexity of installation.

We also note that there we would need to operate the scrubbers in a 'hybrid' or 'closed loop' mode to avoid wash water discharges into enclosed waters. This will mean that there is a large disposal requirement for contaminated washings for which there is currently no practical facilities to receive.

Q27. Are there any other considerations apart from price that is likely to be taken into account when deciding to switch fuels or use abatement technology?

The key issue will be supply availability. At this stage, there is no clarity about what grades will be available in different ports, and more generally, within NZ.

Presently, there is no infrastructure for storage and supply of any future alternative fuels, limiting the ability of the market to trial and use them.

Q28. Would current reception facilities at ports be able to cope with the requirements of Annex VI?

Unknown.

Q29. If not, what are the additional costs associated with providing additional reception facilities?

Unknown

Q30. If low sulphur fuel could not be locally produced, what will happen to the 3.5 percent sulphur fuel currently produced as a by-product of the refining process?

The fuel will have very limited uses. NZ flag ships trading exclusively domestically will likely continue to use the fuel. The limited number of International ships fitted with scrubbers may take fuel.

On the basis that there is no equivalent air quality legislation for land based uses, then it is likely that some will be diverted to landside process heat applications within NZ.

Q31. Are there any costs and/or benefits or any associated industry concerns around the NOx requirements when considering accession?

For KiwiRail, **Aratere** was converted in 2011, including the installation of two new engines. However these did have NOx certification, and are recorded on the ships statement of compliance with IAPP certificate issued by DNVGL. In general, we would always aim to comply with International regulations to preserve the ships resale value.

For some ship owners, there may be concerns about the application of the requirements to provide retrospective certification of installed engines.

Q32. How many New Zealand vessels are likely to be affected by the NOx requirements?



Unknown.

Q33. Are there likely to be any problems associated with providing annual fuel consumption data?

KiwiRail is already voluntarily complying with this requirement. KiwiRail is currently unable to submit the records through NZ, as the flag state, so will submit via Lloyds Register (as a Recognised Organisation (RO) for other party states to the Annex).

Q34. How would acceding to Annex VI affect the domestic shipping sector?

For KiwiRail, acceding will simplify compliance with requirements by ensuring alignment between International and Domestic practice.

It will require a change to currently used fuels, significantly increasing operating costs. However, we note that this impact will affect all domestic operators, so should not unnecessarily distort the market.

Q35. What are the benefits and costs for the domestic sector of Annex VI?

The most direct impact initially will be in relation to increase in fuel costs. However, acceding provides certainty of regulation moving forward, which is particularly important to KiwiRail given its declared intention to make a major inter-generational investment in new ships and terminals for the Cook Strait. We note that one of the most important decisions to be made as part of these investments is in relation to the fuel types that new ships may use as it fundamentally impacts the design of the ships and terminals.

Regulatory certainty will also likely assist fuel suppliers to make long term plans for storage and distribution of marine fuel grades in New Zealand.

Most plan approval and survey work for the type of vessels that KiwiRail operate is delegated to the classification societies. The class societies have good rules and guidance in relation to Annex VI implementation requirements.

Domestic operators will be able to be issued with IAPP certificates by the flag state (rather than the limited statements of compliance that class societies are currently providing as an alternate), reducing the risk of detention in overseas port states.

Q36. Are there any other issues not considered above, but which you deem important and need to be factored in when considering the costs and benefits of accession to MARPOL Annex VI?

It is important for the New Zealand economy that the country is able to actively participate in the future development of IMO's responses to the challenge of climate change and greenhouse gas emissions. As an island nation, heavily reliant on shipping, both domestically and internationally, New Zealand has an interest in ensuring that any proposed changes to regulation are robust, but also that they do not unfairly disadvantage New Zealand's ability to trade with the rest of the world.

As discussed above, annex VI is designed to control GHG emissions from shipping. However, within existing New Zealand domestic regulation, the NZ Emissions Trading Scheme (ETS) is the primary means of controlling GHG emissions. As part of the review, KiwiRail would like to request that consideration be given to exempting domestic shipping from the NZ ETS arrangements, on the basis that MARPOL Annex



VI would be the primary means of regulating GHG emissions arising from shipping. In particular, we note that the existing application of the NZ ETS is unfair, in that it is only paid by domestic ships, and is not paid by International ships when carrying domestic freight on the coast of New Zealand.

Aligning the regulation of GHG emissions from shipping around MARPOL annex VI would therefore provide a fairer playing field for domestic shipping operators.

Q37. Having taken all of the above into consideration, should New Zealand accede to Annex VI?

KiwiRail is supportive of NZ acceding to Annex VI after 1 January 2021, or as soon as is practical after that.

Regards

Peter Wells

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