

21 May 2025

TEL +64 4 473 0111
Level 11, 1 Grey Street, Wellington 6011
PO Box 25620, Wellington 6140
New Zealand

s 9(2)(a)

F36817
By email

Dear s 9(2)(a)

Official Information Act request – fuel quality monitoring in New Zealand

I refer to your request of 8 April 2025:

1. "How does MNZ chose which ship it will monitor?"
2. Are MNZ records available of the number of ships inspected to date?
3. Have any been non-compliant? If so, can you provide this general detail. Would this be available under an Official Information Act request if not readily available?
4. Does MNZ use sniffer drones or other remote sensing/portable devices?
5. What steps does the inspection usually follow aboard a ship?
6. At what point does MNZ take ship fuel samples and send samples for testing?
7. Does MNZ apply any allowance if there is a minor infraction between the in use/in tank samples and the applicable limit?
8. Does MNZ have a written policy in this area which it can provide?
9. Your comments on the below query.

IMO2020 enforcement in NZ. The difference between allowable limits for in-use / in-tank samples (0.53%) and MARPOL samples (<0.50%) is well-known..

If a Vessel has been selected for IMO2020 enforcement and MARPOL samples and in-use samples turn out to exceed the allowable limit, would NZ authorities refer to other test results obtained by shipowners (e.g. as part of their fuel testing regime) as mitigation when deciding whether action would be taken against the vessel and its owner!?"

We have considered your request under the Official Information Act (the Act). In addition to our responses below, there are three documents in scope of your request. Some information has been withheld or refused under the following grounds

- | | |
|-------------|--|
| 9(2)(a) | to protect the privacy of natural persons |
| 9(2)(b)(ii) | to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information |

For ease of response I have numbered your questions, and our responses are below.

1. "How does MNZ chose which ship it will monitor?"

On an annual basis, the Maritime Inspections Team will decide which ship types and port will be selected for fuel sampling and testing. This selection also includes an indicative schedule of when the sampling will be carried out. It does not include the selection of particular ships as this is impossible to determine in advance. Vessels are chosen at random for sampling and testing on board and in-use marine fuel. This is in accordance with Marine Protection Rules Part 199 and MARPOL Annex IV. Further information on this procedure can be found in document 1.

2. Are MNZ records available of the number of ships inspected to date?

There have been 18 vessels tested between January 2023 - 8 April 2025.

3. Have any been non-compliant? If so, can you provide this general detail. Would this be available under an Official Information Act request if not readily available?

As at 8 April 2025 no vessels have been found to be non-compliant with MARPOL Annex VI requirements.

4. Does MNZ use sniffer drones or other remote sensing/portable devices?

No.

5. What steps does the inspection usually follow aboard a ship?

The table below provides a high-level overview of the inspection steps. Further detail is provided in document 2.

				
ANNUALLY	MONTHLY	WEEK BEFORE SAMPLING	DAY OF SAMPLING	TESTING
<ul style="list-style-type: none"> Maritime Inspections determines which types of ships will be selected for sampling and a rough schedule of when they are focussing the sampling 	<ul style="list-style-type: none"> Maritime Inspections determine sampling to occur that month. Maritime Inspections send the list of planned sampling to the Sampling Service Provider, and Trading Standards. 	<ul style="list-style-type: none"> The assigned Maritime Inspector informs the shipping company of the ship that matches the profile of the planned testing. The Maritime Inspector communicates with the assigned Sampler and the ship on logistical arrangements for the fuel sampling 	<ul style="list-style-type: none"> The Maritime Inspector and the Sampler meet at the port for toolbox meeting. Both go on board for a meeting with the ships crew, where sampling locations are determined and paperwork is reviewed. Sampler takes samples and arranges their delivery via courier to the laboratory. 	<ul style="list-style-type: none"> Laboratory runs the predetermined tests on the fuel samples within the 10 day timeframe and sends test results to both agencies Trading Standards will provide Maritime Inspections with an analysis of the results, which are saved into Filem8. If the fuel is non-compliant they will also inform the ship for their information.

6. At what point does MNZ take ship fuel samples and send samples for testing?

Please see document 3.

7. Does MNZ apply any allowance if there is a minor infraction between the in use/in tank samples and the applicable limit?

Maritime NZ has not received any results that were not clearly below 0.5%, therefore we are refusing this question under s18(e) of the Act as the information requested does not exist.

8. Does MNZ have a written policy in this area which it can provide?

Maritime NZ does not have a specific policy for this eventuality; therefore we are refusing this question under s18(e) of the Act as the information requested does not exist.

9. Your comments on the below query.

IMO2020 enforcement in NZ. The difference between allowable limits for in-use / in-tank samples (0.53%) and MARPOL samples (<0.50%) is well-known..

If a Vessel has been selected for IMO2020 enforcement and MARPOL samples and in-use samples turn out to exceed the allowable limit, would NZ authorities refer to other test results obtained by shipowners (e.g. as part of their fuel testing regime) as mitigation when deciding whether action would be taken against the vessel and its owner?"

Maritime NZ may consider ship-owners' own testing results and/or Maritime NZ may request further testing of tank samples to verify fuel sulphur content.

With regard to the information that has been withheld under section 9 of the Act, I am satisfied that the reasons for withholding the information at this time are not outweighed by public interest considerations that would make it desirable to make the information available.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602

If you wish to discuss this decision, please feel free to email us at ministerial.services@maritimenz.govt.nz.

Yours sincerely



Christine Ross
Manager, Communications and Ministerial Services

Appendix One: Document Schedule

	Document	Date	Decision on release
1	Vessel Selection Procedure Schedule for Marine Fuel Sampling v2.0	July 2023	Released in full
2	Procedure for On Board and In-use Marine Fuel Sampling and Testing	December 2022	Some information withheld under s(9)(2)(b)(ii)
3	EXCERPT – Marine Fuel Quality Monitoring Regime – Operational Management Schedule	November 2022	Some information withheld under s9(2)(a) and s(9)(2)(b)(ii)

Vessel selection procedure for marine fuel sampling



FILEM8 REFERENCE	D23/37590
OWNER	Manager, Maritime Inspections
AUTHORISED BY	Clyde Fernandes
ISSUE DATE	4 July 2023
REVIEW DATE	1 July 2024
VERSION NUMBER	2.0

1. Purpose

- 1.1 This document sets out the procedure for random vessel selection for sampling and testing on board and in-use marine fuel, in accordance with Marine Protection Rules Part 199 and MARPOL Annex VI.

2. Scope

- 2.1 This procedure applies to the Maritime Inspections Team and its Maritime Inspectors.
- 2.2 The scope of work covered under this procedure is for routine random sampling and testing of on board and in use marine fuel coming into New Zealand on ships. The primary focus of the sampling and testing is information gathering.
- 2.3 20 samples per year required – aim to do 2 vessels a month to achieve 24 (this also builds a buffer if we miss a month)
- 2.4 Vessel types – Bulk Carrier, container, general cargo, Ro-Ro, passenger, tanker
- 2.5 Ports with Maritime Inspectors present – Ports of Auckland, Port of Tauranga, Port Taranaki, CentrePort, Lyttelton Port Company, Port Otago

3. Relevant Documentation

Title	FileM8 Ref.
MS590 Part 199 Procedure for on Board Marine Fuel Sampling and Testing	D22/26912
Operational Management Schedule for MBIE and MNZ Marine Fuel Sampling and Testing (On board and In-use)	D22/40548


4. Selecting a Vessel

- 4.1 It will be up to the Maritime Inspector present at each port to check the shipping schedule and select a vessel at random based on the matrix below.
- 4.2 Sampling may be conducted as part of a PSC inspection or not. When selecting a ship for a sample only (not as part of PSC) the NIR criteria from the TMOU is not to be used to maintain randomness.

5. Version Control

Version	Effective Date	Author	Changes
1.0	9 January 2023	Dan Gardner	Initial Published Version
2.0	4 July 2023	Brodie Ward-Johnston	Updated sampling schedule for the 23/24 FY

Approval

Role	Name	Signature	Date
Manager, Maritime Inspection	Blair Simmons		9 January 2023
Manager, Maritime Inspection	Clyde Fernandes		4 July 2023

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

1. Purpose

Procedure for On Board and In-use Marine Fuel Sampling And Testing



CODE	MS590
FILEM8 REFERENCE	D22/26912
OWNER	Deputy Chief Executive, Regulatory Operations
AUTHORISED BY	Deputy Chief Executive, Regulatory Operations
ISSUE DATE	December 2022
REVIEW DATE	December 2023
VERSION NUMBER	1.0

- 1.1 This document sets out the procedure for sampling and testing on board and in-use marine fuel, in accordance with Marine Protection Rules Part 199 and MARPOL Annex VI.

2. Scope

- 2.1 This procedure applies to the Maritime Inspections Team and its Maritime Inspectors.
- 2.2 The procedure also applies to the external parties of MBIE Trading Standards Fuel Quality Monitoring Team (MBIE), and the sampling service provider and the testing laboratory (as delegates of the Director) and their respective employees (as sub-delegates of the Director).
- 2.3 This procedure operates under the MOU between Maritime NZ and MBIE and applies to the existing contracts MBIE has with the sampling service provider and the testing laboratory. It also works alongside the service instructions that Maritime NZ sends to each of the service providers annually that outline specific requirements for on board and in use marine fuel sampling and testing.
- 2.4 The scope of work covered under this procedure is for routine random sampling and testing of on board and in use marine fuel coming into New Zealand on ships. The primary focus of the sampling and testing is information gathering.

3. Procedure

Annually

- 3.1 On an annual basis, the Maritime Inspections Team will decide which ships will be selected for fuel sampling and testing. This selection involves port selection and type of ship, as well as an indicative schedule of when the sampling will be carried out. It does not include the selection of particular ships as this is impossible to determine in advance. The budget for sampling and testing costs is included in the Maritime Inspections cost centre.
- 3.2 The provisional sampling schedule for the year must be sent to the sampling service provider preferably at the beginning of the financial year in July. The sampling service provider will confirm receipt of the sampling schedule.
- 3.3 The Maritime Inspections Team, working alongside Trading Standards, will decide how they will code all of the samples for the year, for anonymous testing at the laboratory and cohesive records for both agencies. This coding is determined before any sampling and testing takes place.

- 3.4 The Maritime Inspections Team and Trading Standards will review the programme and amend the service instructions to the service providers as necessary.

Monthly

- 3.5 On a monthly basis, the Maritime Inspections Team will determine the sampling that will occur for the month ahead. They will also:
- record all of the planned sampling and the dates, determine the likely ships that fit the sampling schedule and assign the codes to be used for each sample for the laboratory to test
 - assign the Maritime Inspector who will need to be present for the on board sampling – the sampling may coincide with a Port or Flag State Control inspection, or may be done separately
 - Send the monthly sampling list to Trading Standards for their information, as they will also record the results of the sampling and testing.
 - The assigned Maritime Inspector is responsible for contacting the sampling service provider to request the services of a local sampler with the appropriate sub-delegation from the Director of Maritime NZ.

Up to one week before a fuel sample collection is to take place:

- 3.6 A week before the sample collection is to take place the Maritime Inspector informs the shipping company that samples will be taken from the on board and/or in-use tanks when they arrive in the port. The Maritime Inspector will send the *Fuel Sampling and Testing Advice to Shipping Companies* letter (provided in Annex 2) which sets out the purpose, the authority, and the compliance requirements of the ship's crew.
- 3.7 The Maritime Inspector will communicate with the regional contact for the sampling service provider (located in the signed Service Instructions in FileM8 -2022-23 is D23/3418) until the individual Sampler is confirmed.
- 3.8 The Maritime Inspector will keep in touch with the ship and the assigned Sampler around exact dates and times once the letter has been sent to the shipping company.
- 3.9 The Maritime Inspector communicates with the Sampler where and when to meet in the port, and confirms the ship they will be sampling in case there are any actual conflicts of interest and a new Sampler has to be found.
- 3.10 The Maritime Inspector will communicate the current PPE requirements to the Sampler ahead of their meeting at the port. If going on board a tanker, the Maritime Inspector must wear the required fire retardant overalls.

Day of the Sample Taking

- 3.11 The Maritime Inspector and the Sampler meet at the port at the agreed place, preferably at the port entrance or at the vessel gangway. Prior to boarding the ship, they undertake an onsite toolbox meeting using the 'Part One: In Port' section of the *On Board Sampling Record* template, taking into account current conditions, any safety considerations, and any perceived or potential conflicts of interest for the Sampler.
- 3.12 Once on board the ship, there will be an initial on board opening meeting with the Maritime Inspector, Sampler and the relevant ship's crew. This meeting will include a brief review of the ship's fuel related documentation and the locations for the sampling. The Sampler will also have an opportunity to ask any questions at this meeting.
- 3.13 The 'Part Two: On Board' section of the *On Board Sampling Record* must be completed by the Maritime Inspector whilst on board, or notes taken to allow it to be completed after leaving the port.

- 3.14 The Sampler must be sent a copy of the completed whole *On Board Sampling Record*, and the ship may be sent a copy of the completed 'Part Two: On Board' section of the *On Board Sampling Record*.
- 3.15 The Maritime Inspector and the Sampler will determine the sampling locations¹ with the Chief Engineer. If the sampling connections at these locations do not fulfil the conditions below, that sampling location will not be able to be used.
- The sampling location should be easily and safely accessible.
 - The sampling connection point should be in a position shielded from heated surfaces or electrical equipment, and any necessary shielding device or construction should be sturdy enough to ensure that any leaks, splashes or spray, under transfer pump discharge pressure, do not impinge onto such surfaces or equipment.
 - The sampling connection should be provided with suitable spill collection arrangements or drainage to the drain tank or other safe location.
- 3.16 If there is no sampling connection point available then the Maritime Inspector can consider issuing a deficiency.
- 3.17 The Maritime Inspector will review the items below. From this information, in conjunction with the Sampler and the Chief Engineer, the Maritime Inspector will determine the location and number of the samples to be taken:
- engine room log book
 - fuel and tanks in use
 - bunker delivery notes/ Fuel oil bunker analysis advisory service (FOBAS) fuel analysis report
 - oil record book
 - tank soundings
 - any alternative arrangements such as Exhaust Gas Cleaning System (EGCS) and its accompanying documents.
- 3.18 The intent of this review is to determine the in service fuel tanks and appropriate sampling location.
- 3.19 The Sampler will take a minimum of one sample set from each of the chosen on board or in use in-service tanks on board. A sample set consists of three 5 litre cans. There may be multiple sample sets taken from different locations depending on the ship.
- 3.20 The ship may also wish to take samples at the same time for their own records. They must provide their own cans and those samples will remain on the ship.
- 3.21 The Sampler will use their existing process to courier the samples to the laboratory. This includes standard packaging and labelling. The Sampler sends the sampling report to MBIE and Maritime NZ for their records.
- 3.22 The Maritime Inspector will add this and the *On Board Sampling Record* to this folder to FileM8 [FileM8 location]. See Section 6 of this procedure on document storage.

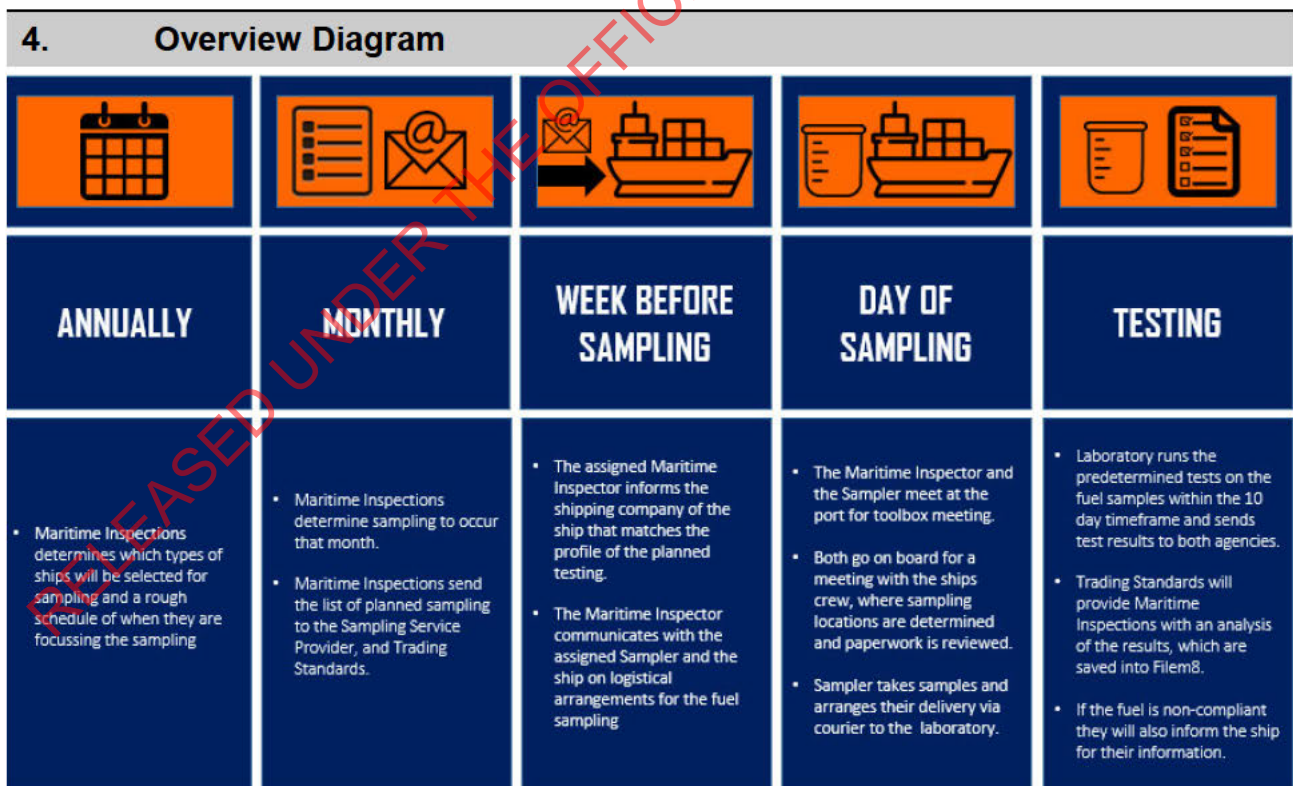
After testing is completed

- 3.23 The laboratory will confirm receipt of the sample with both agencies, and will perform the agreed tests for marine fuel². The agreed testing specifications can be found in Annex 1 of this procedure.

¹ Use [MEPC.1/Circ.889](#) as a guide for sample locations. Subsequent publications of MARPOL Annex VI will have different references for these circulars but the information will remain the same.

² These tests are reviewed, updated and agreed upon annually, and recorded in the Service Instructions.

- 3.24 There is a timeframe of a maximum of ten working days from arriving at the laboratory to the results of the testing being sent to both Trading Standards and Maritime NZ. This is only for samples that are part of this procedure for information gathering and not for compliance action. If a sample is found to be non-conforming, the laboratory will need to follow the same process as they do for land based fuel non-conformance. This process is covered in the Trading Standards operating manual.
- 3.25 The laboratory will provide the results of the testing to Trading Standards and to Maritime NZ, to the contact people identified in the Service Instructions.
- 3.26 Trading Standards will perform compliance analysis and supply to Maritime NZ in a pre-formatted quick report.
- 3.27 As per the MBIE contract with the testing laboratory, the laboratory shall clearly identify and store all samples for a minimum of 6 months from receipt in a secure and environmentally-controlled area (except during the testing process when all samples must be stored in the testing area) at no cost to Maritime NZ or MBIE.
- 3.28 During the 6 month period, the laboratory shall permit Maritime NZ and Maritime NZ agents to access (including allowing samples to be removed and taken from the testing laboratory) every stored sample and to inspect storage conditions at all reasonable times.
- 3.29 After 6 months the laboratory shall dispose of the fuel samples in a manner fully compliant with any relevant legal, environmental and health and safety requirements.
- Invoicing and costs**
- 3.30 MBIE will invoice Maritime NZ on a minimum six monthly basis for reimbursement of marine sampling and testing costs, to coincide with financial years. MBIE will pay the contracted sampling service provider and the laboratory on a monthly basis, as they do for their other fuel sampling and testing costs.



5. Managing conflicts of Interest

- 5.1 Due to the small size of the New Zealand shipping industry, there is a potential for conflicts of interest to arise for the sampling service provider. Conflicts of interest (COI) need to be properly identified and transparently managed.

- 5.2 It is important to identify COI ahead of time and that everyone behaves appropriately.
- 5.3 To manage these, the sampling service provider must declare any COI (pecuniary or otherwise) before undertaking any sampling and include this in the toolbox meeting report. If there is an actual COI they must declare this ahead of the day, and an alternative Sampler must be used.
- 5.4 A COI arises if a person's financial or personal interests or obligations do or could conflict or be perceived to conflict with its sampling service provider obligations. It means that its independence, objectivity or impartiality can be called into question. The types of COI are outlined below.
- Actual conflict: where the conflict currently exists and circumstances are or could be perceived to influence the sampler's judgement to the detriment of the procedural integrity.
 - Potential conflict: where it is reasonably probable that in future, an actual COI will come into play.
 - Perceived conflicts: where other people may reasonably have a perception that there is a COI, including where the interests come close but do not intercept. In these situations, careful management is still required. Not taking steps to manage these risks can undermine reputation and hiding conflicting interests can give rise to perceptions or allegations of misconduct.³
- 5.5 As long as the Sampler does not have any interest (pecuniary or otherwise) for the specific ship that they are collecting samples from, an actual conflict of interest will not arise.
- 5.6 If there is a potential or perceived COI, the sampling service provider and the Maritime Inspector will discuss the issues to determine if the COI can be managed. The decision and recommendations must be recorded in Part One of the *On Board Sampling Record*.
- 5.7 Depending on the circumstances, sampling may still be carried out even with a potential or a perceived COI, as the presence of the Maritime Inspector may be deemed sufficient to manage that perceived or potential COI. If the Maritime Inspector is unsure, they must contact the Manager Maritime Inspections before undertaking any sampling.
- 5.8 If an actual COI arises, the Sampler must not carry out the sampling and an alternative sampler must be found. This must be determined before the day of the sampling.

6. Document Storage and Naming Conventions

- 6.1 The following table shows where documents related to this procedure are stored and the naming conventions required.

Document	Naming Standard	Location
Fuel Sampling and Testing Advice to Shipping Companies	Fuel Testing Advice Letter [Ship] [IMO number] [XX/XX/XXXX]	Tbc ON FILEM8
On Board Sampling Record	On Board Sampling Record [Ship] [IMO number] [XX/XX/XXXX]	Tbc ON FILEM8
Non-compliance letter (if required)	Non-compliance letter [Ship] [IMO number] [XX/XX/XXXX]	Tbc ON FILEM8

³ For more information see Crown Entities Act 2004, section 62.

Trading Standards Compliance Analysis Report	Compliance Analysis Report [Ship] [IMO number] [XX/XX/XXXX]	Tbc ON FILEM8
---	---	---------------

7. Definitions

7.1 The following terms and acronyms have been used in this procedure:

Laboratory	The company that is contracted by MBIE to undertake marine fuel testing. Their General Manager holds the delegation for testing marine fuel samples from on board ships.
Maritime Inspector	The Maritime NZ staff member who is a properly qualified person authorised to carry out Maritime Inspections and Port State Control, in accordance with the Paris MoU, by Maritime New Zealand as the port State Authority and acts under its responsibility. Only those specialised in Port State Control can undertake sampling on board foreign vessels.
MARPOL	This refers to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978. Annex VI of the Convention outlines the regulations for the prevention of air pollution from ships.
MBIE	Ministry of Business, Innovation and Employment / Hikina Whakatutuki, the regulator for fuel quality monitoring.
MOU	Memorandum of Understanding between Maritime NZ and MBIE [signed by the MNZ CE on 28 November 2022] which sets out a framework for cooperation between the regulators responsible for the implementation of the marine fuel quality and sulphur oxides regulations of MARPOL Annex VI in New Zealand.
Sampler	The individual from the sampling service provider who accompanies the Maritime Inspector on board the ship and physically takes the samples and sends them as per their operating procedures to the testing laboratory. They must have the sub-delegation from the General Manager (who holds the delegation from Maritime NZ) in order to carry out the sampling.
Sampling service provider	The company that is contracted by MBIE to undertake marine fuel sampling. Their General Manager holds the delegation for taking marine fuel samples from on board ships.
Trading Standards	A team within the Ministry of Business, Innovation and Employment (MBIE) Hikina Whakatutuki, who is the regulator for fuel quality monitoring.
Trading Standards Manual	Trading Standards Fuel Quality Monitoring Operating Manual. This manual sets out the instructions for the exact can specification to be used, the labelling required, the courier process required to send the samples, when each can should be sent to the laboratory for testing and how the laboratory should report non-conformance of fuel samples.

8. Responsibility and authority

8.1 The procedure is authorised by the Manager, Maritime Inspections.

8.2 Maritime Inspectors are responsible for ensuring the process, as defined in this procedure, is carried out.

9. Reference

9.1 The following documents informed this procedure:

- Marine Protection Rules Part 199: Prevention of air pollution from ships
- MARPOL Annex VI – Regulations for the prevention of air pollution for ships
- Maritime Inspections Team administration procedures
- MOU for Fuel Quality Monitoring between MBIE and Maritime NZ.
- www.maritimenz.govt.nz/MARPOL
- Service Instructions for the sampling service provider
- Service Instructions for the laboratory
- Fuel Quality Monitoring website: <https://fuelquality.tradingstandards.govt.nz/>

10. Version Control

10.1 Changes made to this document are recorded in the table below.

Version	Effective Date	Author	Changes
1.0	10.12.22	Lauren Ford-Jones	Document published.
1.1	21.02.23	Lauren Ford-Jones	Templates updated to reflect the operational needs of the Maritime Inspections Team

11. Appendices

11.1 The following documents are provided as appendices:

Annex 1 – Fuel Testing Specifications 2022/2023

Annex 2 – Letter to Shipping Company: Fuel Sampling and Testing Advice TEMPLATE

Annex 3 – On Board Sampling Record TEMPLATE

Annex 4 – Letter to Ship in the case of non-compliance TEMPLATE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Annex 1: Fuel Testing Specifications 2022/2023

a. Residuals

Properties	Distillate / Residual	Test Price, \$ (estimate)	ISO 8217	Reference method in ISO 8217	Testing	Volume per Test, in ml
Kinematic viscosity	both		ISO 3104	not mentioned	ASTM D445	50
Density	both		ISO 3104 / ISO 3675 or ISO 12185	agree prior	ASTM D1298 or D4052	20
CCAI	Residual		ISO 3675 or ISO 12186	density & viscos	ISO 8217 Appendix C	n/a
Sulphur	both		ISO 8754 or ASTM D4294 ^{4A}	ISO 8754	ASTM D4294	20
Flash point	both		ISO 2719	ISO 2719	ASTM D93	160
Hydrogen sulphide	both		IP 570	IP 570	IP 570	10
Acid number	both		ASTM D664	not mentioned	ASTM D664	25

b. Distillates

Properties	Distillate / Residual	Test Price, \$ (estimate)	ISO 8217	Reference method in ISO 8217	Testing	Volume per Test, in ml
Kinematic viscosity	both		ISO 3104	not mentioned	ASTM D445	50
Density	both		ISO 3675 or ISO 12185	agree prior	ASTM D1298 or D4052	20
Cetane Index	Distillate		ISO 4264	not mentioned	D4737	100
Sulphur	both		ISO 8754 or ASTM D4294 ^{4A}	ISO 8754 except D4294 for DF	ASTM D4294 ^{4A}	20
Flash point	both		ISO 2719	ISO 2719	ASTM D93	160
Hydrogen sulfide	both		IP 570	IP 570	IP 570	15
Acid number	both		ASTM D664	not mentioned	ASTM D664	25

*not listed in Table 1 but is stipulated for distilled samples (except DMB and DFB) which were found not clear and bright

^{4A}ASTMD 4294 in use until receives IANZ Accreditation in 2023.

Annex 2: Letter to Shipping Company: Fuel Sampling and Testing Advice TEMPLATE

Enter Date

TEL +64 4 473 0111 FAX +64 4 494 1263
Level 11,1 Grey Street, Wellington 6011
PO Box 25620, Wellington 6140
New Zealand

Management Company of m/v
[vessel name] (IMO XXXXXXXX)
Cc. Master of m/v [vessel name]
(IMO XXXXXXXX)

In-confidence

To whom it may concern,

On Board Fuel Sampling and Testing required for [name of ship] (IMO XXXXXXXX)

Your ship [name of ship] has been selected to undergo sampling and testing of its on board fuel when it docks in [name of port] on or around [date expected in port].

Purpose

New requirements for fuel oil sampling and testing have entered into force under the MARPOL Convention Annex VI, supporting the implementation and enforcement of the IMO 2020 0.50% limit for sulphur in ships' fuel oil and the Annex VI fuel quality requirements.

The purpose of this fuel sampling and testing is to check conformance with these fuel quality requirements for in-use fuel coming into New Zealand ports. The selection of ships at this stage for sampling is random.

Authority

The authority for this fuel testing is under MARPOL Annex VI and New Zealand's Marine Protection Rules Part 199.

Overview

What does this mean?

When the [name of ship] docks, at an agreed time the Maritime Inspector and a Sampler from s 9(2)(b)(ii) will need access to the ship to take samples of fuel. They will need to meet with the master and at least the chief engineer, to determine sampling locations on board.

There must be a sampling connection point that meets the following conditions:

- The sampling location should be easily and safely accessible.
- The sampling connection point should be in a position shielded from heated surfaces or electrical equipment, and any necessary shielding device or construction should be sturdy enough to ensure that any leaks, splashes or spray, under transfer pump discharge pressure, do not impinge onto such surfaces or equipment.
- The sampling connection should be provided with suitable spill collection arrangements or drainage to the drain tank or other safe location.

You may take your own samples to retain on board as a record if you wish but will need to provide your own sampling can or bottle.

We will be in contact directly to arrange a suitable time and confirm attending personnel.

What will the ship need to have available?

The Maritime Inspector will need to review the following:

- a. engine room log book
- b. fuel and tanks in use
- c. bunker delivery notes
- d. oil record book

- e. soundings
- f. any alternative arrangements such as EGCS and its accompanying documents.

What happens with the sample taken?

The fuel will be tested for sulphur limits and other particulate matter at an independent laboratory. We will inform you if we have found non-compliance but enforcement action will not be taken on the basis of this analysis.

Health and Safety on board

We will work with the ship's crew in terms of any health and safety considerations while on board, and follow their instructions on manoeuvring around the ship.

Thank you for your co-operation in this.

Yours sincerely

Maritime Inspector Name | Maritime Inspector

Nō te rere moana Aotearoa

Maritime New Zealand | [Office/Region]

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

MPR Part 199 Fuel Sampling

ON BOARD SAMPLING RECORD

Details					Ship IMO/MNZ number
Date		Time		Port	
Ship name		Ship Type		Maritime Inspector	
				Sampler name, Company	
Part 1: In Port					
Conflicts of Interest	Are there any actual conflicts of interest?	Y	N	Details:	
				If yes, you must not continue with the sampling.	
Conflicts of Interest	Are there any perceived or potential conflicts of interest?	Y	N	Details:	
				If yes, how will you manage this?	
Current weather conditions	Note any conditions that may impact health and safety in the port, boarding/disembarking and while on board the ship				
Port Operations	Note any port operations around you that may be a health and safety risk and how you will mitigate these				
PPE	Is your level of PPE correct and equivalent? Coveralls, steel-toed boots, eye protection, hard hat, hearing protection, gloves, gas-meter, up to date COVID protocols	Y	N	Details:	

MPR Part 199 Fuel Sampling

ON BOARD SAMPLING RECORD

Part 2: On Board						
Details				Ship IMO/MNZ number		
Date		Time		Port		
Ship name		Ship Type		Maritime Inspector		
				Sampler name		
Opening Meeting	Note any important details from this meeting					
Document Review (Check as appropriate)	Engine Room Log Book	<input type="checkbox"/>	Notes			
	Fuels and tanks in use	<input type="checkbox"/>	Notes			
	Bunker Delivery Notes for all fuel to be sampled	<input type="checkbox"/>	Notes			
	Oil Record Book	<input type="checkbox"/>	Notes			
	Tank Soundings	<input type="checkbox"/>	Notes			
	Any alternative arrangements such as EGCS and its accompanying documents	<input type="checkbox"/>	Notes			

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Sampling Locations As per IAW MEPC.1 /Circ.889	Sample set #1	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	
	Sample set #2	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	
	Sample set #3	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	
	Sample set #4	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	

Add any additional sampling locations using the additional sheet below

Did the ship take their own sample?	Yes (provide details)	No
-------------------------------------	-----------------------	----

Signed on behalf of Maritime NZ as an accurate record of fuel reviewed and sampled:

..... Maritime Inspector

Signed on behalf of the ship as an accurate record of fuel reviewed and sampled:

..... Chief Engineer

ADDITIONAL SAMPLE DETAILS

Sampling Locations As per IAW MEPC.1 /Circ.889	Sample set #5	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	Reasoning for choice of location:
	Sample set #6	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	Reasoning for choice of location:
	Sample set #7	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	Reasoning for choice of location:
	Sample set #8	Details of seal identification:
	Sample codes for laboratory: Can 1: Can 2: Can 3:	
	Sampling Location on board:	Reasoning for choice of location:
Sample set #9	Details of seal identification:	
Sample codes for laboratory: Can 1: Can 2: Can 3:		
Sampling Location on board:	Reasoning for choice of location:	

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Annex 4: Letter to Ship in the case of non-compliance TEMPLATE

Enter Date

TEL +64 4 473 0111 FAX +64 4 494 1263
Level 11, 1 Grey Street, Wellington 6011
PO Box 25620, Wellington 6140
New Zealand

Recipient's Name

[name of ship] [IMO number]

In-confidence

ATTENTION SHIPS MASTER OF [name of ship] [IMO number]

Good day Captain

In Regards to On Board Fuel Sample test results

Your ship [name of ship] [IMO number] was subject to sampling and testing of its on-board fuel, which was sampled pursuant to Section 396A of the Maritime Transport Act on XX Month 20XX while berthed in the port of [name of port].

The testing laboratory found that the fuel in use on board your ship was non-compliant with the MARPOL Annex VI fuel quality requirements and the International Maritime Organisation (IMO) 0.50% limit for sulphur in ships' fuel oil.

Please see the attached copy of the laboratory report.

Obtaining compliant fuel while in New Zealand

If you are still on the coast of New Zealand, you must ensure you are utilising compliant fuel. All fuel in New Zealand is compliant with MARPOL Annex VI fuel quality requirements. Your vessel is likely to be targeted in the future for Port State Control to ensure you are compliant with the applicable Marine Protection Rules.

Please confirm receipt of this message.

Best regards

Sender's Name

Sender Position

Copy to: Maritime Inspector responsible if they are not the sender

SECTION 2

Section two of this operational management schedule sets out the operational involvement and requirements of [REDACTED] as the service provider for marine fuel sampling.

In-Use and On Board Marine Fuel Sampling

Service Instructions for [REDACTED] 2022-2023

1. Context of Services

- 1.1 These service instructions are an attachment to the contract between [REDACTED] and Ministry of Business, Innovation and Employment (MBIE) for fuel sampling dated 1 November 2021 and ending 31 October 2023) ("Contract for Services").
- 1.2 These service instructions relate to on board and in-use marine fuel sampling for ships, as this will differ from land based sample taking.
- 1.3 These service instructions will be reviewed and reissued annually throughout the length of the Contract for Services.

2. Contacts

2.1 Contact Details

The following contact details are those who are responsible for their agency in regards to the Contract for Services.

Maritime New Zealand contact person	Clyde Fernandes Principal Advisor Maritime Inspections	[REDACTED] contact person	s 9(2)(a) [REDACTED]
Contact phone	s 9(2)(a) [REDACTED]	Contact phone	s 9(2)(a) [REDACTED]
Contact email	Clyde.Fernandes@maritimenz.govt.nz	Contact email	s 9(2)(a) [REDACTED]

2.2 Regional [REDACTED] Contacts

- a. Maritime NZ will communicate with the relevant regional contact person at [REDACTED] (as laid out in 2.2b) until an [REDACTED] Sampler is assigned to undertake a specific sampling job.
- b. The regional contacts will assign an [REDACTED] Sampler for each sampling job and advise the Maritime NZ contact.

[REDACTED] region	[REDACTED] contact person	Contact phone	Contact email
Whangarei / Auckland	s 9(2)(a) [REDACTED]	[REDACTED]	[REDACTED]

New Plymouth	s 9(2)(a)
Tauranga / Napier	
Wellington	
Christchurch / Timaru / Dunedin	

3. Procedure

- 3.1 These instructions conform to the Maritime NZ Internal Procedure for on board and in-use marine fuel quality sampling and testing (Maritime NZ Procedure).
- 3.2 Maritime NZ can provide a copy of the Maritime NZ Procedure so that [redacted] can see where the sample taking fits within the wider regime, if required.
- 3.3 Specific guidance about taking on board and in-use marine fuel samples have been included below.

4. Standards and References

- 4.1 The sampling must conform to the ISO 3170:2004 standard for manual sampling of petroleum liquids.¹
- 4.2 References in these service instructions relate to the International Maritime Organisation (IMO) circulars available at the time these instructions were agreed.
- 4.3 Subsequent publications of MARPOL Annex VI will have different references for these circulars but the information will remain the same.

5. Communications: Expectations and Commitments

5.1 Yearly sampling schedule

- a. Maritime NZ will provide [redacted] with a provisional sampling schedule at the beginning of the financial year in July.
- b. This schedule will show when Maritime NZ would like to focus the sampling (i.e. whether it is spread out throughout the year or focussed on a few months), which ports it intends to cover, and the identifying codes that will be used for sampling jobs.
- c. Any queries related to the schedule should go to the Maritime NZ contact at the top of these Service Instructions.

¹ The standard is referenced in the IMO Circular MEPC.1/Circ.889 7 December 2020

5.2 Conflicts of Interest

- a. [s 9(2)(b)(i)] must inform Maritime NZ of any conflicts of interest (including actual, perceived or potential) that arise, where an [s 9(2)(b)(i)] Sampler has been selected to take fuel samples from a ship or shipping company where they may not be judged impartial.
- b. If there is a perceived or potential conflict of interest then Maritime NZ and [s 9(2)(b)(i)] will discuss and agree on a case by case basis how it will be managed. For example, a Maritime Inspector will be on board and present during the taking of fuel samples.
- c. Any actual conflicts will result in a different [s 9(2)(b)(i)] sampler having to be chosen for the sampling date and vessel. [s 9(2)(b)(i)] must inform Maritime NZ at least 24 hours prior to the sampling date and time if this is the case and provide an alternative [s 9(2)(b)(i)] sampler.
- d. More information on conflicts of interest can be found in the Maritime NZ procedure.

5.3 Response times for queries

- a. Maritime NZ will respond to any queries from [s 9(2)(b)(i)] within five working days, even if an answer cannot be found immediately.
- b. Maritime NZ expects that [s 9(2)(b)(i)] will also adhere to this timeframe.

5.4 Specific job communications

- a. Each sampling job identified in the yearly schedule will be assigned to a Maritime Inspector from Maritime NZ a month away from the planned sampling.
- b. Maritime NZ will give [s 9(2)(b)(i)] a week's notice for each sampling job, using the standard request form, and the likely ship will be identified.
- c. For each sampling job, Maritime Inspectors are the connection between Maritime NZ, the ship, the shipping company and [s 9(2)(b)(i)], and will advise the [s 9(2)(b)(i)] Sampler as to the exact date and time that the sampling will take place on, taking into account when the ship comes into port, and availability of the master and the [s 9(2)(b)(i)] Sampler. Maritime Inspectors also accompany the [s 9(2)(b)(i)] Sampler on board for the sampling as outlined in Section 6, and complete the documentation outlined in Section 8.
- d. The Maritime Inspector assigned to the job must be the first port of call for any queries relating to that sampling job, including regarding any conflicts of interest.

5.5 Timeframes for samples

- a. It is expected that [s 9(2)(b)(i)] will follow the Trading Standards Fuel Quality Monitoring Operating Manual (TS Manual) for couriering the samples to the laboratory, in line with their standard operating procedures, keep a record of the courier number and the receipt of samples from the laboratory.

6. In Port and On Board the Ship

6.1 Personal Protective Equipment (PPE) and Identification (ID)

- a. The [REDACTED] Sampler will be expected to be prepared with their ID on their person to be admitted into the port.
- b. The [REDACTED] Sampler is expected to be wearing an acceptable level of PPE. Maritime NZ determines this as wearing the following:
 - Hand protection: made of material insoluble in hydrocarbons, such as PVC gloves and gauntlets.
 - Eye protection: safety goggles, masks or a face shield (if necessary).
 - Respiratory protection: with appropriate filter for organic vapours (if necessary).
 - Foot protection: anti-static and non-slip boots (Steel or composite toe)
 - Body protection: safety clothing made of cotton, linen or wool material (not synthetic fibres), flame-retardant and anti-static
 - Safety helmets, ear protectors and a safety belt: if necessary.
 - Face mask (COVID-19 protection)
- c. PPE requirements are subject to change. The [REDACTED] Sampler is expected to take instruction from the Maritime Inspector for their own safety. The Maritime Inspector will advise what is required before the day of the sampling.

6.2 Meeting at the port and on board the ship

- a. The [REDACTED] Sampler is expected to meet the Maritime Inspector at the specified place at the port, to undertake the safety checks recorded on the *On Board Sampling Record*. Details of this are in Section 8: Documentation.
- b. Once on board the ship, there will be an initial on board opening meeting with the relevant ship's crew. This meeting will include a brief review of the ships fuel related documentation and the locations for the sampling.
- c. The locations are determined at this opening meeting in conjunction with the Chief Engineer. The [REDACTED] Sampler and Maritime Inspector will also discuss with the Chief Engineer if the sampling connections at these locations fulfil the conditions in Section 7.5. If they do not fulfil the conditions, that sampling location will not be able to be used.
- d. At the meeting, the Master or Chief Engineer of the ship must decide if, in addition to the sample sets for testing, they want to take duplicate samples for the ship to retain for their records. They must provide their own cans and those samples will remain on the ship.
- e. Whilst on board the ship, for the purpose of maintaining the chain of evidence, until the sample is fully taken, identified and sealed, the Maritime Inspector and [REDACTED] Sampler must remain together.
- f. The [REDACTED] Sampler is expected to abide by all crew instructions for health and safety, as the ship is the main PCBU.

6.3 Sampling numbers and locations

- a. The § 9(2)(b)(iii) Sampler will take a minimum of one sample set from each of the in use compartments on board. A sample set consists of three 5L cans. The samples must come from in-service tanks and there may be multiple sample sets taken from different locations depending on the ship. All of these samples will be sent to the laboratory, at specified intervals outlined in the TS Manual.
- b. The sample containers must be the same cans as the ones used for land based fuel sampling, as specified in the TS Manual.

7. MARPOL Annex VI guidelines for sampling

- 7.1 The following sampling procedure is taken from 2020 IMO guidance and must be adhered to when taking in-use and on board samples².
- 7.2 Tank sampling involves obtaining a sample of fuel oil from the tank in question. The sample obtained must be representative of the fuel oil at the location from where it was drawn. Fuel oil in a tank may be sampled by use of the ship's fuel oil transfer system or, in some instances, directly from the tank. Alternative sampling approaches may be used provided they deliver a fuel oil sample which is representative of the fuel oil at the location from where the sample was drawn.
- 7.3 In all instances, attention should be given to avoiding sample contamination by extraneous or sedimented matter.

Sampling by use of the ship's fuel oil transfer system

- 7.4 When sampling by use of the ship's fuel oil transfer system it should preferably be set up to recirculate to the tank from which it is drawing. In instances where that is not possible, close attention should be given to not over-filling the receiving tank or mixing fuel oils from different consignments. It should be noted that for a viscous fuel oil to be in a pumpable condition it will typically need to be at a temperature corresponding to a viscosity of around 800 – 1,000 cSt.
- 7.5 Sampling should be undertaken downstream of the pump using a suitable sampling connection drawing from the flowing fuel oil. That sampling connection should fulfil all the following conditions:
 - it should be easily and safely accessible;
 - the sampling connection point should be in a position shielded from heated surfaces or electrical equipment, and any necessary shielding device or construction should be sturdy enough to ensure that any leaks, splashes or spray, under transfer pump discharge pressure, do not impinge onto such surfaces or equipment; and
 - the sampling connection should be provided with suitable spill collection arrangements or drainage to the drain tank or other safe location.
- 7.6 Having established that the fuel oil transfer system is handling the fuel oil to be sampled, the sampling connection should be thoroughly flushed through and thereafter the required sample should be obtained.

² Information in full can be found in the 2020 Guidelines for on board sampling of fuel oil intended to be used or carried for use on board a ship, IMO Circular MEPC.1/Circ.889 7 December 2020

Direct sampling from a tank

- 7.7 System tanks, such as settling or service tanks, should preferably be sampled using the 2019 IMO Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships³. Viscous fuel oils in such tanks will be at elevated temperatures and hence due caution would be necessary. Such tanks may be sampled directly only by means of tapping points mounted on the tank which should meet the requirements given above in 7.5. Sampling from a system tank should not be undertaken by means of removing an access plate or from the test drain connection.
- 7.8 Loaded cargo or other ship operational factors may preclude direct sampling from a tank.
- 7.9 Since a sample obtained is representative of the fuel oil at the level or point from where it was drawn, it will therefore not always be necessary to take samples from more than one level or point in a tank.
- 7.10 Sampling may alternatively be undertaken from the sounding pipe of a tank by means of a suitable sampling arrangement.
- 7.11 When sampling from a sounding pipe, the design of that sounding pipe and the recent filling history of that tank should be considered to assess the relationship of the fuel oil in the sounding pipe to that in the associated tank.

Sample handling

- 7.12 The samples obtained should be collected into suitable sample cans. (As outlined in Section 6.3). The sample cans should be sealed by the [REDACTED] Sampler with a unique means of identification installed in the presence of the Maritime Inspector and the Chief Engineer. As all [REDACTED] can seals are identical, the unique means of identification are numbered sealed bags that the cans are placed in.
- 7.13 The following information should be included on the label for any samples taken for the ship that remain on board, and on the *On Board Sampling Record* for the samples going to the laboratory:
- sampling point location where the sample was drawn;
 - bunker delivery note details of the fuel oil sampled, as per information required by appendix V of MARPOL Annex VI;⁴
 - date and port of sampling;
 - name and IMO number of the ship;
 - details of seal identification; and
 - signatures and names of the Maritime Inspector and the Chief Engineer.

³ 2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships, IMO Circular MEPC.1/Circ.864/Rev.1 21 May 2019. These guidelines contain more information for fuel sampling in addition to the 2020 Guidelines and should be read together.

⁴ MARPOL Annex VI Appendix V - Information to be included in the bunker delivery note (Regulation 18(3))

- 7.14 The cans for the laboratory cannot contain any identifying information. A code will be used that will correspond to the information captured on the *On Board Sampling Record*. These codes are predetermined and are in line with the Trading Standards codes covered in the TS manual.

8. Documentation

- 8.1 The *On Board Sampling Record* must be completed by the Maritime Inspector and the [REDACTED] Sampler.
- 8.2 The *On Board Sampling Record* has two sections, one for in the port and one for on board the ship. The 'in port' section must be completed before boarding the ship, and includes checking any conflicts of interest and a health and safety assessment.
- 8.3 The second section of the *On Board Sampling Record* covers what was found in reviewing the ships fuel documentation, the locations for the sample taking and the label information for the cans and corresponding codes.
- 8.4 Maritime NZ will provide a copy of the completed *On Board Sampling Record* to the [REDACTED] Sampler on the day of the sampling for [REDACTED] records.
- 8.5 Maritime NZ may request to view the [REDACTED] operating procedures in relation to packaging, shipping and receipt of samples. [REDACTED] are expected to comply with this request within a reasonable timeframe.
- 8.6 As per the [REDACTED] operating procedures, the [REDACTED] Sampler will send their own sampling report to MBIE, but also to Maritime NZ.

9. Delegations

- 9.1 The Director of Maritime NZ shall delegate (subject to conditions) certain statutory powers and functions under sections 396A(4)(b)(i) and 453(1) of the **Maritime Transport Act 1994** and **Marine Protection Rules Part 199.164(1) and Part 199.464(1)** to the Managing Director of [REDACTED] s 9(2)(b)(ii) for purposes of going on board ships and carrying out fuel oil sampling.
- 9.2 The delegated powers may be sub-delegated (subject to conditions) by the Managing Director of [REDACTED] s 9(2)(b)(ii) to employees of [REDACTED] s 9(2)(b)(ii) with appropriate skills and experience.
- 9.3 Maritime NZ expects that all [REDACTED] s 9(2)(b)(ii) employees undertaking this marine fuel sampling will have the expertise necessary to obtain the required sample in a safe and competent manner, and a [REDACTED] s 9(2)(b)(ii) employee is not permitted to provide the services unless they have the proper sub-delegation from the Managing Director of [REDACTED] s 9(2)(b)(ii).

10. Invoicing and Fees

- 10.1 Fees

- a. Fees and expenses are stated in the Contract for Services, and must be adhered to when undertaking marine fuel samples.

10.2 Invoicing

- a. All invoices relating to the job should be sent as per the Contract for Services, with clear notification that it is for a marine fuel sample.

11. Glossary

11.1 In these service instructions:

Contract for Services	The contract between s 9(2)(b)(ii) and Ministry of Business, Innovation and Employment (MBIE) for fuel sampling dated 1 November 2021 and ending 31 October 2023)
In-Use Sample	A sample of fuel oil in use on a ship
s 9(2)(b)(i)	s 9(2)(b)(ii). The testing laboratory that s 9(2)(b)(iii) will send samples to as per their standard operating procedures.
Maritime Inspector	Refers to the Maritime NZ staff member qualified to undertake Port State Control that communicates with the s 9(2)(b)(iii) Sampler before the sampling, and will accompany the s 9(2)(b)(iii) Sampler on board the vessel. This may be as part of a Port State Control Inspection or a sole purpose visit to undertake the sampling.
Maritime NZ	Refers to the team in Maritime NZ that is responsible for the Maritime NZ Internal Procedure for Marine Fuel Quality Sampling and Testing
Maritime NZ Procedure	Maritime NZ Internal Procedure for On Board and In-use Marine Fuel Sampling and Testing
MBIE	Refers to Trading Standards within the Ministry of Business, Innovation and Employment and their Fuel Quality Monitoring Team.
On Board Sample	A sample of fuel oil intended to be used or carried for use on board that ship
Service Instructions	This document that sets out instructions to s 9(2)(b)(iii) relating to on board and in-use marine fuel sampling for ships, as this will differ from land based sample taking.
s 9(2)(b)(iii) Sampler	Refers to the individual s 9(2)(b)(iii) employee that has been sub-delegated powers relating to sampling that undertakes the on-board sampling, and sends the samples to the laboratory.
TS Manual	Trading Standards Fuel Quality Monitoring Operating Manual. This manual sets out the instructions for the exact can specification to be used, the labelling required, the courier process required to send the samples, and when each can should be sent to the laboratory for testing.