



Ministry of Transport
TE MANATŪ WAKA

Maritime Transport Act 1994

Maritime Rules

Maritime (Portable Fire Extinguisher) Amendment Rules 2008 (Parts 40C and 42B)

Pursuant to section 36 of the Maritime Transport Act 1994, the
Minister for Transport Safety, makes the following maritime rules.

Signed at Wellington

this *1st* day of *August* 2008

by HARRY JAMES DUYNHOVEN

Minister for Transport Safety

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Objective

The objective of the Maritime (Portable Fire Extinguisher) Amendment Rules is to amend the requirements for portable fire extinguishers.

The amendments are to assist the industry in carrying the correct size and rating of portable fire extinguisher, ensure consistency in the maritime rules regarding the requirements for spare charges for portable fire extinguishers, and to remove the reference to New Zealand Standard 4503:1993 *Hand Operated Fire-Fighting Equipment*.

Rules subject to Regulations (Disallowance) Act 1989

Maritime rules are subject to the Regulations (Disallowance) Act 1989. Under that Act, the rules are required to be tabled in the House of Representatives. The House of Representatives may, by resolution, disallow any rules. The Regulations Review Committee is the select committee responsible for considering rules under the Regulations (Disallowance) Act 1989.

Extent of Consultation

On 16 June 2007, Maritime New Zealand published in each of the daily newspapers in the four main centres of New Zealand a notice inviting comments on the proposed Maritime (Portable Fire Extinguisher) Amendment Rules. A notice was also published in the *New Zealand Gazette* on 14 June 2007. The Authority then made its Invitation to Comment and draft amendment rules available to the public with approximately 100 copies being sent automatically to interested parties. Comments on the draft rules were requested by 7 August 2007.

Thirty organisations and four individuals provided written submissions on the draft. All submissions and any oral comments were considered, and where appropriate, the proposed rules were amended to take account of the comments made.

General

1 Title

These rules are the Maritime (Portable Fire Extinguisher) Amendment Rules 2008.

2 Commencement

These rules come into force on the 4th September 2008

3 Principal rules amended

These rules amend the Maritime Rules.

Amendments to Part 40C (Design, Construction and Equipment – Non-Passenger ships that are not SOLAS ships)

4 Part 40C, Appendix 2, Clause 2.1 Ships of less than 500 Gross Tonnage that Undertake an International Voyage

Clause 2.1 of Part 40C, Appendix 2 is amended by inserting the following paragraph in the entry “Portable Fire Extinguishers” –

- “(f) for every two portable fire extinguishers of the same type, there must be provided one spare charge or a replacement extinguisher of the same type.”

5 Part 40C, Appendix 2, Clause 2.2 Offshore Limits Ships and Coastal Limits Ships

Clause 2.2 of Part 40C, Appendix 2 is amended by inserting the following paragraph (1)(e) in the entry “Portable Fire Extinguishers” –

- “(e) for every two portable fire extinguishers of the same type there must be provided one spare charge or one replacement extinguisher of the same type.”

Amendments to Part 42B (Safety Equipment – Fire Appliances)

6 New Rule 42B.57 substituted

Rule 42B.57 is revoked and the following rule substituted –

“42B.57 Portable fire extinguishers

- (1) Portable fire extinguishers must have the following minimum size and classification and rating determined in accordance with the *Joint Australian/ New Zealand standard AS/NZ 1850:1997 Portable fire extinguishers – Classification, rating and performance testing*:

Fire Type	Ships of 24 Metres or more in length overall		Ships of 12 or more but less than 24 metres length overall		Ships of more than 6 but less than 12 metres length overall		Ships of less than 6 metres length overall	
	Minimum Size	Class/ Rating	Minimum Size	Class/ Rating	Minimum Size	Class/ Rating	Minimum Size	Class/ Rating
For fires involving wood, cloth, paper, rubber and plastics ¹⁴	4.5 kg or 4.5 litres	3A	4.5 kg or 4.5 litres	2A	2.5 kg or 4.5 litres	2A	2 kg or 4.5 litres	2A
For fires involving flammable and combustible liquids ¹⁵	9 kg or 9 litres	powder: 80B; foam: 30B	4.5 kg or 9 litres	powder: 60B; foam: 30B	2.5 kg or 4 litres	powder: 40B; foam: 20B	2 kg or 4 litres	powder: 30B; foam: 20B
For fires involving combustible gases	4.5 kg	C	4.5 kg	C	4.5 kg	C	2 kg	C
For fires involving electricity ¹⁶	3.5 kg	E	3.5 kg	E	2 kg	E	1.5 kg	E

- (2) In areas where the hazards include cooking oils or fats in a vat, the portable fire extinguishers required must have the following minimum classification rating, determined in accordance with the *Joint Australian/ New Zealand standard AS/NZ 1850:1997 Portable fire extinguishers – Classification, rating and performance testing*, and minimum size in relation to the volume of oil/fat.

Maximum volume of oil/fat (litre)	Minimum Size of extinguisher	Minimum Class/Rating of extinguisher
3.5	2 litres	1F
10.5	2 litres	2F
17.5	2 litres	3F
52.5	2 litres	4F
Above 52.5	7 litres	4F

- (3) Portable fire extinguishers for use in accommodation or service spaces must, so far as practicable, have a uniform method of operation.

¹⁴ For example, fires in accommodation spaces in general.

¹⁵ For example, fires in a machinery space.

¹⁶ For example, fires in a switchboard space.

- (4) Subject to subrule (5), where portable dry powder fire extinguishers are provided, either in accommodation and service spaces, or in machinery spaces, their number must not exceed one half of the total number of extinguishers provided in either of those spaces.
- (5) Where only one portable fire extinguisher is required in an accommodation, service or machinery space, that extinguisher may be a dry powder extinguisher.
- (6) Subject to subrule (7), ships to which Part 40B applies must carry on board—
 - (a) spare charges for portable fire extinguishers that are capable of being recharged, together with instructions for recharging the extinguishers; and
 - (b) replacement extinguishers for those that cannot be recharged on board.
- (7) A ship to which Part 40B applies, must carry a spare charge or replacement extinguisher, as the case may be, for –
 - (a) each of the first 10 of its portable fire extinguishers; and
 - (b) half of its remaining portable fire extinguishers;but is not required to carry more than 60 spare charges and/or replacement extinguishers.
- (8) A portable fire extinguisher must be kept fully charged at all times.
- (9) Fire extinguishers containing an extinguishing medium that, in the opinion of the Director or a surveyor, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons must not be used in a ship.
- (10) Carbon dioxide fire extinguishers must not be located in or adjacent to sleeping accommodation.
- (11) One of the portable fire extinguishers intended for use in any space must be stowed near an entrance to that space.
- (12) Specifications relating to scope, contents, operation, construction, and marking of portable fire extinguishers manufactured –
 - (a) in New Zealand, must comply with Parts 1 to 6 of Australian/New Zealand Standards standard number AS/NZ 1841:1997 *Portable fire extinguishers*; and
 - (b) outside of New Zealand, must comply with Parts 1 to 6 of British Standards Institution standard number BS EN 3:1996.

- (13) A portable fire extinguisher must be periodically inspected and maintained in accordance with the relevant provisions of NZS 4503:1993 *Code of Practice for the Distribution, Installation and Maintenance of Hand Operated Fire Fighting Equipment for Use in Buildings*.
- (14) Records of those inspections referred to in subrule (13) must be maintained on board, showing the date of inspection and the type of maintenance carried out, including whether or not a pressure test was performed.
- (15) Manufacturers' instructions for recharging extinguishers must be available for use on board".

7 Rule 42B.72 Consequential amendments

The following rule is inserted after Rule 42B.71 -

"42B.72 Consequential amendments

For Clause 3(e) of Appendix 1 of Part 80 is substituted the following -

"(e) Portable fire extinguishers must be manufactured and maintained in accordance with Rule 42B.57."

Maritime Rules

PART 42B

MARITIME (PORTABLE FIRE EXTINGUISHER) AMENDMENT RULES

Consultation Details

(This text does not form part of the rules contained in Part 42B. It provides details of the consultation undertaken before making the rules.)

Summary of Consultation

There were 34 written submissions provided on the draft “Maritime (Portable Fire Extinguisher) Amendment Rules”. This consisted of 30 from individuals in organisations and 4 individual submissions. All 34 submissions are listed below.

No.	Name	Organisation
1	Gerry Lindberg	Argos Marine Survey
2	Mark Cowen	Wormald
3	Bryan Watts	Erma
4	Gareth Boniface	-
5	Geoff Kier	Wormald
6	Bill Maddick	Maddick Marine Surveys
7	Andrew Conway	Chubb Fire & Services
8	Daryl Brown	Amerex Fire Pacific NZ
9	Glenn Williams	Wormald New Zealand
10	Jean Reynolds	Survey Nelson
11	Tony Kilworth	Wormald New Zealand
12	Alan Anderson	Fire Corp Industries NZ Ltd
13	Darren Guard	Marine Safety Solutions
14	Gary Levy	Division of Aotearoa Fisheries Ltd
15	Gary Levy	New Zealand Rock Lobster Industry Council
16	Dennis Williams	FireSpec South
17	Dennis Palmer	-
18	Stanley Palmer	The Cook Strait Commercial Fisherman’s Association
19	Bob Makin	Fullers Group Ltd
20	Steve Smith	Firewatch New Zealand
21	Dave McIntosh	Owner and crew of F.V St Kathryn and Dave McIntosh
22	Maree Burnett	Assured Safety Ltd

No.	Name	Organisation
23	Paul Cotton	Firewatch Whangarei
24	David Hipkins	Wormald
25	Alistair Coleman	Survey Bay of Plenty
26	Peter Donald	Capital Fire
27	Private	-
28	Rob Thexton	Charterlink
29	Hugh Munro	Plunket and Falconer
30	Tom Baker	-
31	Greg Lykles	Firewatch North Taranaki
32	Madeleine Mitchell	Insurance Council of New Zealand
33	Peter Hughes	Aon New Zealand
34	Brett Neilsen	Actron Fire Services

42B.57(1)

Argos Marine Survey highlight that 4/4.5 litre extinguishers for solid and fuel fires on vessels less than 6 metres in length are still disproportionate to the vessel size and volume of combustible material likely to be onboard.

Maritime New Zealand response: *The vessel may carry a 2kg dry powder extinguisher instead. The tables have been revised by two members of the fire industry who suggested this is the lowest possible size in respect of safety of the vessel.*

Paul Cotton of Firewatch Whangarei says that size requirements can vary from vessel to vessel and galley to galley. Speed to the fire can determine the size of the extinguisher required. It is not much use having a 4.5kg mobile extinguisher kept in the rear locker under the raincoats and boots when a 2ltr spray foam extinguisher and fire blanket should have been installed into the galley. Uninhibited travel, area of cover and possible dangers within that area should determine the size and type of extinguisher required. Categorising vessels by their length only is not a good rule of thumb. A 12 metre open seated tourist boat would require totally different cover than say a 12 metre four level charter boat. This is when an IQP (Independent Qualified Person) would provide the owner and surveyor with a possible solution.

Maritime New Zealand response: *It states in the Part 40 series (design, construction and equipment for ships) that portable fire extinguishers must be readily available for use in such a space as it has been fitted for. This would not include being kept in a locker under raincoats and boots. Maritime New Zealand would like to point out that the purpose of 42B.57 is to state the minimum size and rating of the type of extinguisher that has been chosen to be put in such a space as required by the Part 40 series.*

Charterlink proposes that the heading “minimum size” is amended to “at least one at minimum size”. They also provide comment on the current size and rating of extinguishers used on their charter yachts.

Maritime NZ response: *The amendment to 42B.57(1) either prescribes for smaller extinguishers with the same or bigger ratings, or for the same size of extinguisher as the current rule. The*

amendment is being made to allow for appropriate size of extinguishers on ships, especially the smaller ships. The Part 40 series (design, construction and equipment) in the maritime rules determines the number of extinguishers required while Maritime Rule 42B.57 determines the extinguishers minimum size and rating.

42B.57(2)

Paul Cotton from Firewatch Whangarei has concerns with the intent of providing a dedicated Class F type extinguisher. From his experience, many dedicated Class F extinguishing agents/solutions are extremely hazardous to the human body, causing skin to burn and peel as well as possible loss of sight and comments that rule 42B.57(9) must apply. He makes the suggestion that there are foam spray extinguishers available on the market that carry Australia and New Zealand Standards that are class A, B and do carry Class F ratings and recommends these extinguishers would be more than suitable for the average vessel.

Maritime NZ response: *Class F extinguishers are only required on ships that have a deep-fat fryer or such like. The health hazards for a type of wet chemical extinguishant are listed as follows: eye contact, skin contact and ingestion is non-harmful; and inhalation is negligible with vapour pressure at ambient temperature considered. Provided the extinguisher is used as intended there is a low risk of causing extreme hazards to the human body.*

42B.57(5)

Maddick Marine Surveys wonder why a ship would carry a fire extinguisher that was not suitable for any type of fire on the vessel as in a fire emergency all the fire extinguishers would be used to try and extinguish the fire. They recommend Class A portable fire extinguishers should be the only fire extinguishers on vessels less than 24m.

Maritime NZ response: *Class A extinguishers are only suitable for extinguishing fires that are wood, cloth, paper, rubber and plastics. Most vessels, including small ones, also have electrical and oil components on board, which need more than an A class extinguisher.*

Steve Smith from Firewatch NZ believes that dry powder in a confined space can be problematic particularly as regards visibility and respiratory concerns in a situation where narrow exit paths are the norm. For instance, one can imagine a situation where one crewmember is asleep when another crewmember spots a fire in the accommodation space and discharges the dry powder fire extinguisher within that confined area which will obscure vision and is very likely to cause the awakening person respiratory difficulties affecting their ability to exit the affected area.

Paul Cotton from Firewatch Whangarei says that careful consideration must be used when recommending dry powder be installed in accommodation, service or confined spaces due to the effects that dry powder has whilst being discharged. Once again the motives behind Rule 42B.57(9) would apply.

Maritime NZ response: *The majority of dry powder used in the New Zealand market is intrinsically safe. At its worst, dry powder is a mild irritant amongst healthy users. Dry powder is most certainly preferable to using foam or CO2 and water is not suitable for several types of fire that may be found in accommodation, service or confined spaces.*

40C/42B.57(6)

Argos Marine Survey say that vessels less than 24m are unlikely to carry the necessary equipment or expertise to re-pressurise stored pressure type extinguishers.

Maritime NZ response: *The requirement is for spare charges where there are gas cartridge extinguishers. If the extinguisher is a stored pressure type then it must be refilled by a trained person.*

Argos Marine Survey Under 24m vessels should have the spare extinguisher requirement phased in on a percentage basis i.e. vessels to carry say, 10% spare extinguishers to the nearest whole number of 1 or more.

Maddick Marine Surveys says that no spares should be required as the equipment is meant to be fully operational. If the fire extinguisher was used on a voyage it would be replaced before the next voyage.

Fullers Group Ltd comment that the amendment is not practical and that spare charges will not be stowed correctly. They suggest that the calculated fire extinguishing requirement for each compartment of vessels be increased by a factor of 2 and the additional extinguishers to be stowed together at their allocated positions.

Survey Bay of Plenty comment that the requirement for spare charges should be made on the operational limits assigned to the vessel rather than the vessels length.

Maritime NZ response: *This amendment was made to both make Maritime Rules 40A, 40C and 40D consistent as well as remove a double requirement between Part 42B and Parts 40A and 40D. The current 42B.57(6) requires that every portable fire extinguisher be provided with a spare charge or a replacement extinguisher. Part 40A, Appendices 3.1 and 3.2 (ships over 15 metres in length overall), and Part 40D, Appendices 2.1, 2.2, 2.3 (ships over 24 metres in length) also requires spare charges or replacement extinguishers to be carried. However, Part 40C has no such requirement. Any further amendment to subrule(6) is outside the scope of these amendments.*

42B.57(10)

Maddick Marine Surveys states that in many cases it is not practicable in smaller vessels to not store CO₂ in or adjacent to sleeping accommodation. The submitter cannot recall any loss of life caused by a CO₂ extinguisher being discharged in a compartment. In all cases a lot of design and effort is required to contain the CO₂ to allow the extinguisher to put out the fire. In many cases on a fishing boat or in a vessel of less than 24m fire extinguishers are stored in the accommodation. The hazards of CO₂ extinguisher should be pointed out in the SSM manual together with the location and any special care that needs to be taken.

Maritime NZ response: *Due to the inherent danger of CO₂, it will continue to be banned from being kept in or adjacent to sleeping accommodation. When inhaled, CO₂ is an asphyxiate. The effects of oxygen depletion below 6% are convulsive movements, possible respiratory collapse and death. If CO₂ were kept in the sleeping accommodation and it leaked while the crew slept, it could result in their death.*

42B.57(13)

Maddick Marine Surveys recommends that the current fire extinguisher service certificate issued by an authorised fire extinguisher servicing agency should be in with the SSM documentation.

Maritime NZ response: *This recommendation is outside the scope of these amendments.*

42B.57(14)

There were 33 submission on subrule (14). 13 of those submissions agree with the proposed amendment and 20 submissions raised concerns regarding the proposed amendment.

Those who agree with the proposed amendment are: Argos Marine Survey; Maddick Marine Surveys; Survey Nelson; Survey Bay of Plenty; Plunket and Falconer; Marine Safety Solutions; Division of Aotearoa Fisheries Ltd; NZ Rock Lobster Industry Council; Dennis Palmer; Cook Strait Commercial Fisherman's Association; Dave McIntosh; Identity withheld; and Charterlink.

Those who disagree with the proposed amendment are: ICNZ; Mark Cowen from Wormald; Gareth Boniface; Geoff Kier from Wormald; Chubb Fire & Services; Amerex Fire Pacific NZ; Glenn Williams from Wormald; Tony Kilworth from Wormald; Fire Corp Industries NZ Ltd; FireSpec South; Fullers Group Ltd; Steve Smith from Firewatch NZ; Assured Safety NZ; Paul Cotton from Firewatch Whangarei; Dave Hipkins from Wormald; Capital Fire; Tom Baker; Greg Lykles from Firewatch North Taranaki; AON NZ Ltd; and Actron Fire Services Ltd.

Due to the issues raised regarding Rule 42B.57(14), Maritime NZ has withdrawn clauses (13) and (14) from the proposed amendment at this stage for further development. The current rule 42B.57(12) will remain as present.

A summary of the submissions on Rule 42B.57(14) is set out below.

Gareth Boniface makes the comment that if an accident occurs and the "competent person" is injured whilst servicing the extinguisher, or someone is injured because the fire extinguisher does not work then OSH will become involved. The deemed "competent person" will require at least one million dollars of liability insurance.

Maritime NZ response: *Maritime NZ would like to clarify that it is not OSH (Department of Labour) who are involved if there is an accident on a vessel, but Maritime NZ accident investigators as Maritime NZ is the designated authority under the Health and Safety in Employment Act 1992 to conduct such investigations..*

Assured Safety Ltd ask if skippers will be held accountable for any mistakes, including out of date extinguishers, fire losses, insurance cover, corroded extinguishers possibly being dangerous, incorrect size/type fire safety equipment onboard, etc? Will they be supplied with the correct service tags and clippers to keep the servicing schedule up to date? Will they be required to keep written records? Who will check that these things are done?

Mark Cowen, Geoff Kier, Glenn Williams and Tony Kilworth from Wormald; Gareth Boniface; Chubb Fire and Services; Amerex Fire Pacific NZ; Steve Smith from Firewatch NZ; Assured Safety; Paul Cotton from Firewatch Whangarei; Capital Fire; AON New Zealand; and Actron Fire Services comment about service personnel completing NZQA

training before they inspect, maintain and test portable fire extinguishers. They ask whether skippers or other deemed competent persons will be required to complete NZQA training. **Mark Cowen from Wormald and Actron Fire Services** also make the comment that the proposed rule amendment would be making a mockery of the NZQA/Competenz training/accreditation programme.

Mark Cowen from Wormald and Amerex Fire Pacific NZ made the comment that trained service personnel have other professional people to turn to if they are unsure in what they find. They ask who the owner/Master will have to turn to.

Mark Cowen, Glenn Williams and Tony Kilworth from Wormald; Amerex Fire Pacific NZ; Insurance Council of NZ; and Actron Fire Services commented that unlike a building, if a ship is on fire there is nowhere to run, which makes it that more important the fire extinguisher works.

Mark Cowen from Wormald, Chubb Fire and Services, and Steve Smith from Firewatch NZ make the comment that the range of fire cylinders now found in New Zealand is extensive with regard to extinguisher type, weight, pressure, makes and models. Not all of them are manufactured to a recognised international or Australia/New Zealand standard. Therefore, they ask how an amateur is going to be able to gain the knowledge and skills to do the job.

Mark Cowen, Geoff Kier and Tony Kilworth from Wormald; Gareth Boniface; Chubb Fire and Services; Paul Cotton from Firewatch Whangarei; and Actron Fire Services commented on the state of extinguishers they have seen from the marine environment. There were a further **22 submissions** made on the type of damage that has been found on such extinguishers. This includes: extinguishers painted; safety pins that are sealed with ties; perished or damaged hoses and horns; rusty extinguishers; seized operational handles; used extinguishers that were put back; leaked extinguishers; damaged gauges; blocked hoses; and packed powders.

Geoff Kier and Tony Kilworth from Wormald; Steve Smith from Firewatch NZ; Paul Cotton from Firewatch Whangarei; and Actron Fire Services highlighted that pre-mix foam extinguisher solutions are required to be replaced with a fresh solution every 3 years as per NZS 4503:2005. The proposed amendment to Part 42B does not cover for such an eventuality.

Steve Smith from Firewatch NZ and Paul Cotton from Firewatch Whangarei both comment that to preserve the integrity of the process third party inspections by competent personnel have long been proven to be more reliable and unbiased than those persons who may have a vested interest in the outcomes. Examples of such are building and vehicle warrant of fitness's and quality system audits.

Actron Fire Services comment the amendment is likely to impact upon insurance if the surveyor/owner is not able to carry out the 27 possible annual checks as specified in NZS 4503:2005.

Amerex Fire Pacific NZ; Fullers Group Ltd; Insurance Council of NZ; and Actron Fire Services comment that there is no example anywhere in the world, where a relaxation in service standards has not seen a drop in the level of fire protection. The proposed reduction in the level of competency will not improve the level of safety that companies expect for their crews and, in Fullers case, for their passengers. The amendment may in effect reduce the quality of hand-held fire-fighting protection on vessels and the safety of users of pressurised equipment and the safety of the vessel will be compromised as the equipment will not have been maintained by trained qualified persons.