



White Paper

IN-PORT DETENTIONS

The costs and implications for an ageing fleet
- and how to avoid them



Global PSC Detentions

Key Trends 2021–2025

Key trends 2021–2025

Tokyo MoU: records the highest number of inspections globally. Detention numbers have more than doubled, from 526 in 2021 to a peak of 1,255 in 2025

Paris MoU: Detention rate has remained persistently high at around 4%, consistently above the global average

Black Sea MoU: highest rate of detentions relative to inspections (6.78% in 2025). The region attracts a high volume of general cargo and bulk carrier vessels, many over 25 years old

Leading detention categories

25–35% of all deficiencies are safety- and survival-related

30–40% of detainable deficiencies involve safety systems

Vessels most at risk

Bulk carriers, general cargo, container ships and tankers dominate detention statistics

The age factor

The strongest predictor of detention across all MoUs and classification reports

15 years: significantly higher detention risk

20 years: highest risk category

Typical length of detention

Short: 1–3 days documentation or minor deficiencies

Moderate: 3–7 days

Severe/systemic: 7 days+ structural, ISM, machinery issues

Over the last five years (2021–25), across all port inspection MoU (Memorandum of Understanding) regimes, the number of ship inspections has held steady at around 75,000 globally each year yet the number of detentions has increased significantly, by around 70%.



Metkel Yohannes
Chief Portfolio Officer, Survitec

Even the shortest detention carries significant cost. As well as the business-as-usual operational, crew and berth costs, now you have a vessel that isn't going anywhere and you're paying on an unplanned basis to fix faults, obtain parts, upgrade documentation: whatever is needed to get out of detention.

In addition to the costs of non-availability, you have longer-term implications from an enhanced risk profile (vessel and operator), reputational damage with charterers from having a record of detention, higher insurance risk rating and premiums – and likely further PSC targeting from the resulting risk profile.

People in our industry used to say detentions happen most to 'problem' ships. This is no longer true: any vessel of any type or age can face a detention. As the SAFETY4SEA PSC Annual Review for 2025 reports, only half of inspections are completed without deficiencies being identified and "one in seven ocean-going commercial ships are projected to face detention at least once in the coming 36 months so detentions are becoming statistically normal."

The increase in detentions is also no surprise when you consider that the main reasons for inspection failures have stayed the same:

- **ISM (International Safety Management code) failures**
- **Fire safety (SOLAS II–2)**
- **Lifesaving appliances (SOLAS III): lifeboats, liferafts, lifejackets, immersion suits**

which basically means it is much easier for inspectors to know where to look... Yet, with the same core deficiencies consistently reported across all types of vessel, it should be easier than ever for owners and operators to be (and stay) compliant and safe and avoiding the risk of detention.

As detentions are in fact increasing, what is happening?

Deficiencies in fire safety and lifesaving appliances are a particular area of concern to Survitec. As a fire safety expert and OEM, we are often called out to rectify faults caused by inadequate or poor-quality servicing and repairs, too often at the point that the system fails or the situation has become critical. In an earlier White Paper, [Why are the fires not going out?](#) (Survitec, 2024), we explored the growing risks associated with variability in compliance and inspection outcomes across the industry, a focus for our teams over many years.

In this White Paper...

Survitec's technical team looks in more depth at the deficiencies that trigger detentions: from failures that are serious enough on their own to merit detention to the multiple smaller issues that cumulatively affect the overall safety and risk profile of a vessel.

Our analysis also recognises the increasing emphasis on 'soft failures' such as procedural non-compliance and lack of evidence of drills or maintenance, both of which are influencers and multipliers of the detention risk.

We also assess the age factor, where ships 15-20+ years old carry higher detention risks. Ship owners want to maintain

their fleets for longer – especially at a time of geopolitical turbulence and global uncertainty, new regulations on emissions and fuel efficiency and the impact of tariffs and other trade disruptions to consider. With proactive and longer-term planning, there are safe and compliant ways to maximise the earning potential of an ageing fleet, something our teams regularly advise on.

Given the wide-ranging impacts of a port detention, the commercial argument is simple and compelling:

Investing in prevention is materially cheaper than absorbing even one detention.



Jan-Oskar Lid
Technical Sales and Support
Manager, Survitec

Most detentions are not imposed following sudden, acute or catastrophic failures, but are a result of systemic management failures that were detectable and preventable.

Keeping up to date with requirements

While inspections are mandated to identify and prevent deficiencies that may lead to detention, inspection outcomes vary considerably across the market. As we discussed in our 2024 White Paper on fire safety, procurement decisions are often influenced by cost, particularly where multiple providers hold similar approvals and certifications and there are no quality benchmarks or training standards in place to help determine competencies. At the same time, industry pressures including constraints on maintenance budgets and increasing regulation contribute to declining standards in routine safety management and maintenance discipline.

Training is particularly important. As our infographic clearly shows (Pages 6-7), safety requirements and legislation change and evolve over the lifecycle of a ship (35+ years) and requirements may also vary across vessel types, brands, class and flag states. Without ongoing investment in training, it can be a challenge to track and implement all these changes to maintain compliance.

PSC detentions: Looking at the most detainable categories and trends

With port detentions increasing at an unprecedented rate in the last five years, key trends we are seeing include:

Major safety deficiencies: Fire safety and Life-Saving Appliances (LSA) remain high-frequency, high-impact considerations, impacting the core safety profile of the vessel and seen to indicate ongoing maintenance and training deficiencies.

Unsurprisingly, deficiencies in LSA – PSC code 11101 – are a major trigger for detention, given the dangers from faults that can affect a vessel’s ability to abandon ship safely.

Liferafts for example are a “low-frequency, high-consequence” deficiency, not the most common defect but

- regularly identified and highly visible to PSC inspectors
- directly linked to SOLAS compliance
- easy to verify (certificates, HRU, installation)
- rarely cause detention alone but frequently cited as indicating poor maintenance culture and therefore a strong contributor to detention decisions.

Similarly, deficiencies in fire safety are a major cause of detentions under PSC code 07109, a major high-risk category given the risks to crew safety and survival.

A shift in focus towards “systemic failure”. With the ISM code increasingly central in safety management, the PSC appears to be moving from defect-based to management-based enforcement.

The link between LSA deficiencies and ISM failures. Most LSA detentions involve poor maintenance systems, lack of inspection routines and inadequate crew training. The detention risk is highest when LSA defects coexist with a poor management system.

Issues with corrosion and degraded components rarely arise suddenly; they reflect the cumulative impact of ageing assets, increasingly compressed maintenance and service schedules and wider industry pressures, including crew and skills shortages, training and increasing complexity of regulatory compliance.

Viktor Todorov
Global Operations Manager - Fire
Survitec

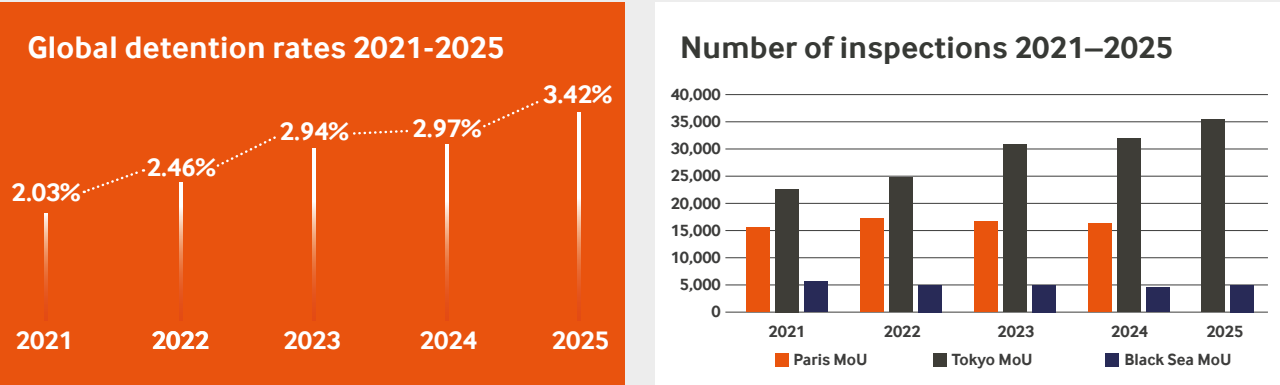
Reducing your risk and maintaining compliance

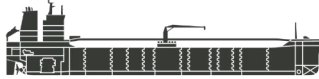
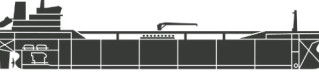
Rigorous inspections by authorised, knowledgeable providers thereby help to mitigate the risk of non-compliance and to manage the wear and tear on safety-critical equipment, making sure it can be relied on to work when required. This is a key role that serious service providers, such as Survitec, take for our customers worldwide to help them manage risk and keep their vessels operating safely.

Inspection and detention rates

Global inspections have plateaued at around 75,000 per year since 2023, while detention outcomes have worsened. Tokyo and Paris MoUs cover the busiest routes and account for over 80% of all PSC inspections and detentions.

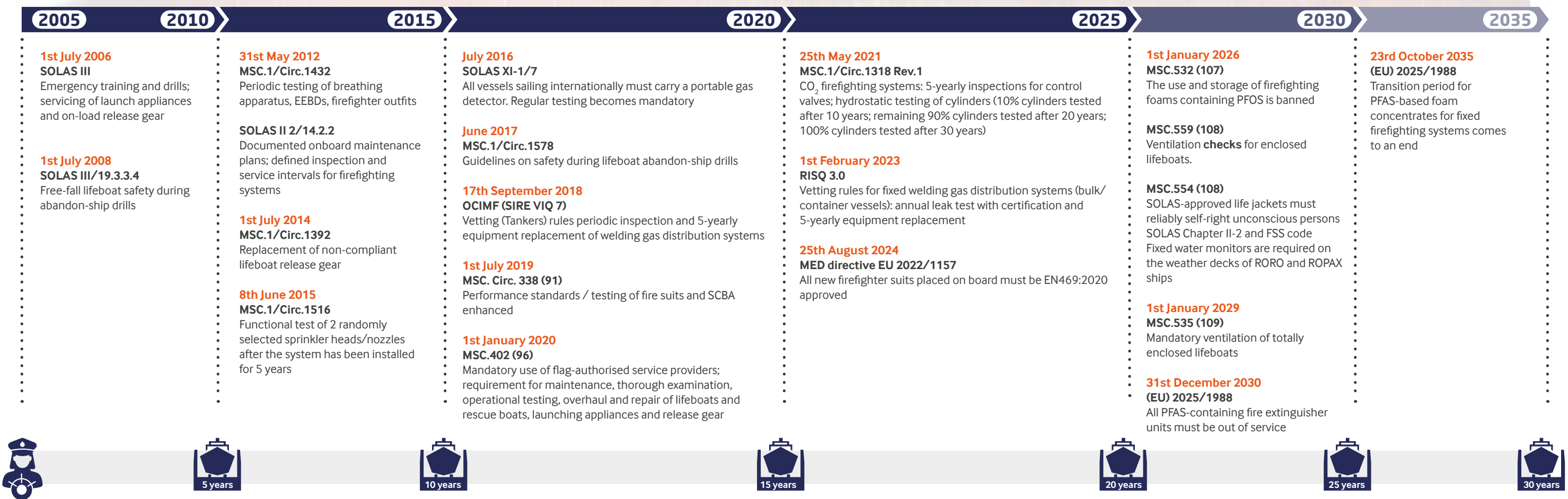
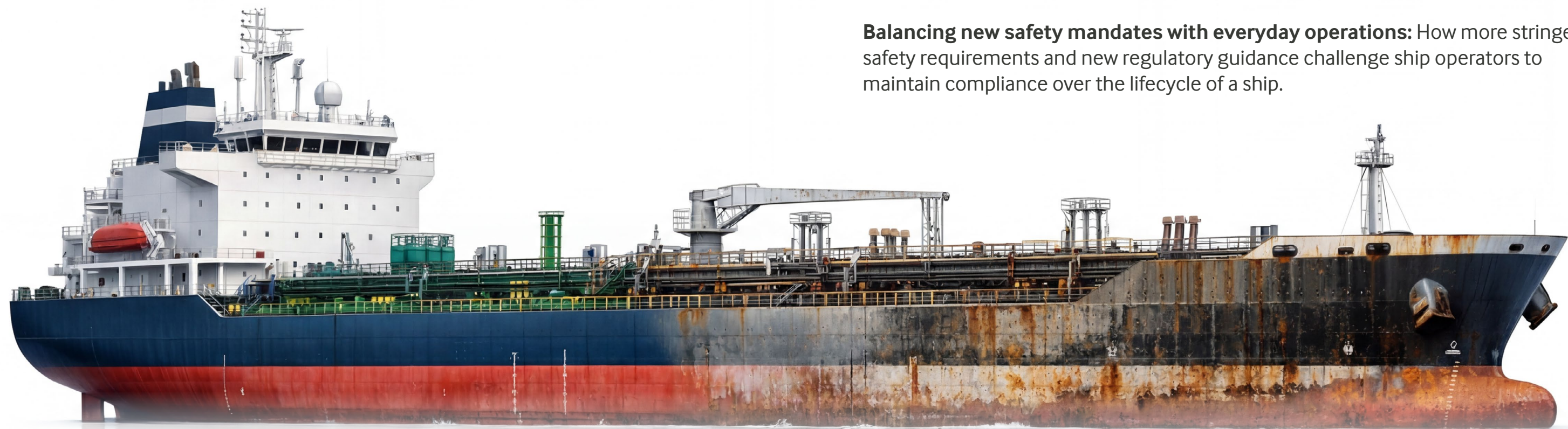
The table below shows the most common detainable deficiencies per type of vessel over 6 months in 2025, as reported by Risk4Sea.



Segment	Inspections	Detentions	Most common detainable deficiency	Deficiency area
 Bulk carrier	13,221	369	Fixed fire extinguishing installation (07109)	Fire safety
 General cargo	7,063	457	Fire detection and alarm system (07106)	Fire safety
 Container	5,668	133	Fixed fire extinguishing installation (07109)	Life saving appliances
 Tanker	5,603	127	Lifeboats (11101)	Fire safety
 LPG	755	38	Fixed fire extinguishing installation (07109)	Fire safety
 LNG	311	4	Fixed fire extinguishing installation (07109)	Fire safety
Other	3,577	98	Lifeboats (11101)	Life saving appliances

THE COMPLIANCE CHALLENGE

Balancing new safety mandates with everyday operations: How more stringent safety requirements and new regulatory guidance challenge ship operators to maintain compliance over the lifecycle of a ship.



Focus on life-saving appliances (LSA)

Life-saving appliances under PSC Code 11101



Lifeboats



Liferafts



Rescue boats



Launching appliances: davits, winches



Lifejackets & immersion suits



Associated equipment: HRUs, embarkation ladders, release gear



Key test inspectors apply: Can the crew abandon ship safely and effectively?

Main causes of detention under code 11101

PSC deficiency code 11101 Life-saving appliances (LSA) under SOLAS Chapter III is one of the most consistently detention-triggering categories, especially when deficiencies affect the vessel’s ability to abandon ship safely.

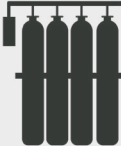
Looking at the main causes of detention for LSA, there is strong alignment across Paris MoU, Tokyo MoU, AMSA, and classification society analyses such as DNV and the American Bureau of Shipping on the priority issues:

- The most critical issue is lifeboats not being operational or not ready for use, the PSC response being that if the lifeboat cannot be launched and operated, the vessel is deemed unsafe.
- **Lifeboat release gear.** Historically, release gear failures have been a major safety concern for the industry and an area of sustained regulatory focus. Action taken to identify and replace non-compliant systems has reduced incidents and mitigated risk; evidence of inadequate maintenance of release gear, hook foundations and associated operating systems may result in detention.
- High likelihood of detentions if **davits and launching appliances are defective** – winch brakes slipping, davit structure corroded, fall wires worn or needing renewal, limit switches not working – meaning the boat cannot be launched or retrieved safely.
- Common **liferaft deficiencies** include expired service certificates, HRU expired or incorrectly fitted, improper securing / not float-free, missing or damaged containers. There is also a cumulative impact: multiple non-compliant liferafts compromises survival capacity.
- **Insufficient or missing LSA equipment**
- **Non-compliant embarkation arrangements.** Issues include damaged or missing embarkation ladders, an unsafe embarkation platform, and obstructed access to lifeboats. All create serious safety risks: crew cannot board safely.
- **Maintenance and servicing failures:** a lack of annual servicing records, lifeboat/liferaft inspections being overdue and no evidence of operational testing – potentially also suggesting ISM deficiencies; on their own these concerns may not trigger detention but combined with other defects often will.
- **Lack of crew familiarity or drill failure.** Examples include incorrect operation of release gear or inability to demonstrate the launching procedure; the equipment is available but cannot be used effectively in an emergency.
- **Immersion suits / lifejackets defective** or insufficient numbers on board.



Focus on fire safety

Fixed fire extinguishing installations under PSC Code 07109



Fixed gas-based systems



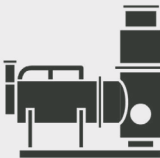
Fixed foam-based systems



Fixed water-based systems



Fixed powder systems



Inert gas systems (in some PSC coding structures)



Key test inspectors apply:
Is the vessel capable of controlling a major fire?

Main causes of detention under code 07109

PSC deficiency code 07109 Fixed fire extinguishing installation sits under SOLAS Chapter II (Fire Safety) and is one of the most detention-prone technical categories globally.

If a fixed fire extinguishing system fails, an engine room fire can lead to loss of the vessel and obviously crew safety is significantly compromised. Therefore, within PSC inspections, even a single serious defect can lead to detention.

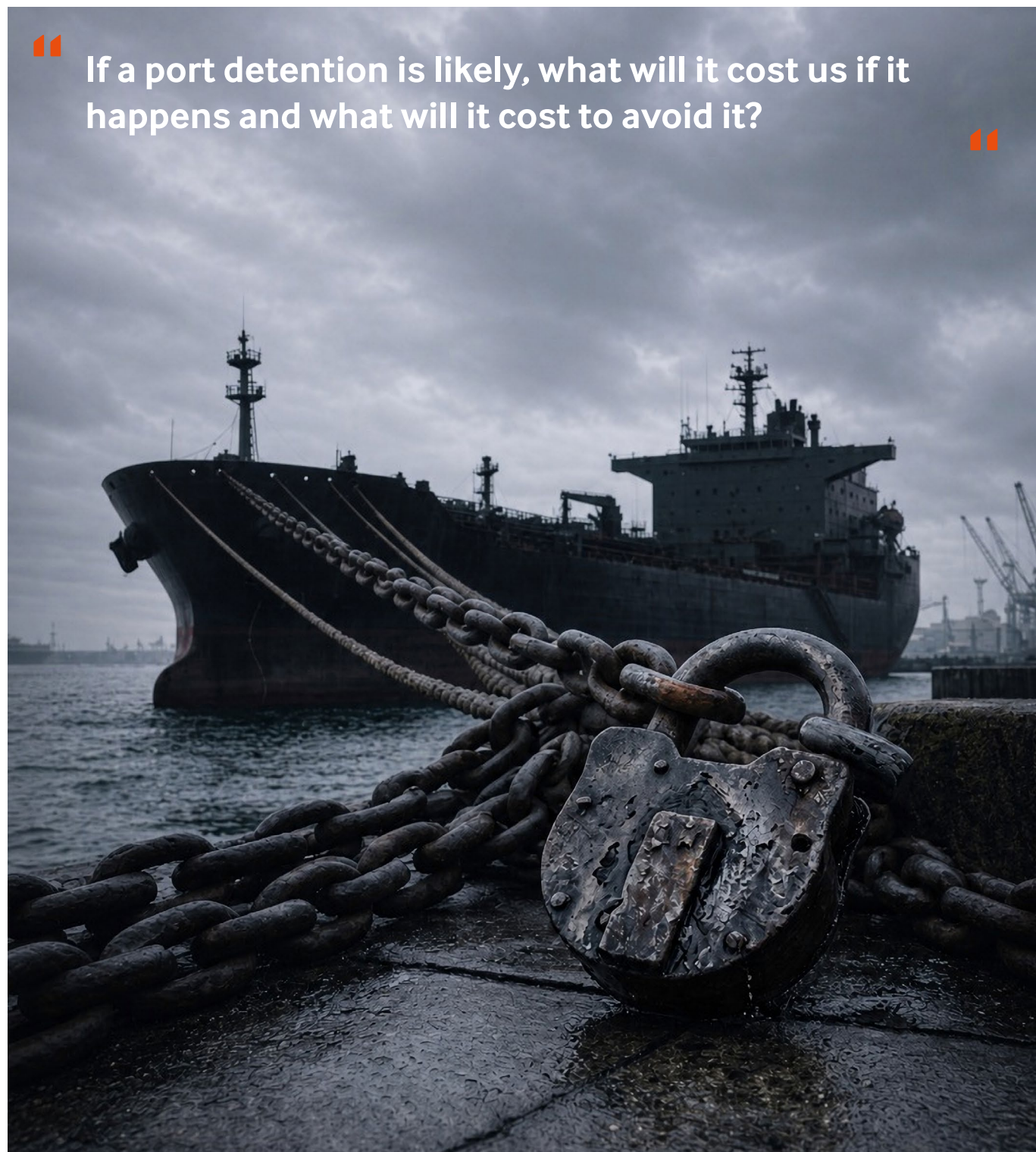
- **CO₂ system not ready for immediate use:** this is the most critical issue and one of the most common detention triggers globally. As CO₂ is the primary engine room fire suppression system, if not operational this indicates a loss of critical fire protection. Typical deficiencies include CO₂ cylinders not fully charged, incorrect cylinder pressure, valves seized or inoperable and the release cabinet locked, obstructed, or inaccessible.
- **Release mechanism failures,** including remote release system not functioning, cables disconnected or corroded, pneumatic/electric release failure or manual backup release not working. The PSC interpretation is if the system cannot be activated reliably, it is considered non-functional.
- **Piping leakage or isolation, or corroded pipework;** the risk being that CO₂ may not reach the protected space and system effectiveness is compromised.
- **Safety interlocks not functioning.** This is critical because effective fire suppression depends on isolating oxygen and fuel sources; without interlocks, the system may be unsafe or ineffective.
- **Alarm and warning system failures are crew safety risks.** Examples include no audible or visual alarm before CO₂ release, alarms not functioning in protected spaces, or the time-delay system not working.
- **Maintenance and certification gaps** may not justify detention on their own, but may result in detention when combined with technical faults. Common examples include missing servicing records, no evidence of testing, and overdue inspections.
- **System isolation or modification.** This is considered a systemic management failure. Examples include systems being partially disabled, sections isolated without approved procedures, and improvised repairs.
- **Foam system failures** have a high likelihood of detention, especially on tankers and chemical carriers. Common issues include degraded or expired foam concentrate, use of the incorrect foam type, and inoperable foam pumps.
- **Water mist system faults.** These are less common overall. Common issues include pump failure, blocked nozzles, and control panel faults.



Assessing and avoiding your financial exposure from detentions

With the increasing percentage of port detentions resulting from PSC inspections, a detention can no longer be considered rare or unexpected. In fact, according to the SAFETY4SEA PSC Annual Review for 2025, more than one in seven ocean-going ships are projected to face detention at least once in 36 months – and more than 80% of ships detained within a 36-month window have only one detention, so they are not repeat offenders.

With this level of statistical likelihood, the main questions for owners and operators are:



If a port detention is likely, what will it cost us if it happens and what will it cost to avoid it?

Modelling the cost of detentions

In our introduction to this White Paper, we looked at the many short and longer-term impacts of a detention, which bring both direct and indirect cost implications, including for example:

- Immediate loss of revenue with a ship in port while costs to maintain it and the crew continue
- Costs of rectifying deficiencies and extricating the vessel from detention
- Longer-term reputational and insurance impacts
- Increased risk profile leading to more stringent PSC inspections

There will of course be significant differences in the reasons for detention and therefore the length of time the vessel will be detained and the associated cost impacts, but there are some assumptions from global reports that you can use to model the impacts for your own operations.

Expected detention length: The industry benchmark used by operators for commercial modelling is around 5 days off-hire per detention.

Expected detention frequency: Industry data shows around 3-5% annual detention probability, equivalent to around one detention every 3-7 years per vessel. For the purposes of modelling: Conservative estimate: one detention every 5 years. High-risk profile: one detention every 3 years.

However you model the base detention and profit costs, it is clear that investing in a service and inspection solution that prevents the predicted level of one detention every 3 years will deliver significant ROI in respect of costs avoided.

Core assumptions for a cost impact model

- 20–40k DWT general cargo
- Charter type: time charter
- Daily hire rate: \$10k-\$18k
- Detention duration: 3–7 days, base case 5



Off-hire loss during detention (primary cost driver)
5 days × \$10k–\$18k

Port and operational costs
Even while detained:
■ Berth dues
■ Port services
■ Agency fees

Repair and compliance costs
Highly variable depending on deficiency:
■ Minor fixes: \$5k–\$20k
■ ISM/system corrections: \$10k–\$50k
■ Major repairs: \$50k–\$200k+

Insurance
■ Variable depending on vessel type, location, usage etc

Schedule disruption
■ Missed laycan / next fixture delay
■ Potential renegotiation or penalties

Indirect commercial losses
■ Reputational / vetting impact
■ Higher inspection frequency
■ Charterer discounting future fixtures (Not always directly quantifiable, but real and compounding)

Behind the statistics: The ageing fleet

Certainly, the global fleet is ageing, with more owners delaying scrappage to keep vessels for longer and maximise the earning potential. In 2014, 36% of vessels were 25 years old; by 2024 this had risen to 44%.

Key drivers behind this growing trend

Maritime freight rates rose five-fold in 2024, a result of increased consumer activity, industrial disputes, extreme weather events and geopolitical impacts including congestion in the Red Sea and Panama Canal.

Key maritime routes being blocked or unsafe is an increasing risk factor. As the Allianz Safety & Shipping Review points out, even before the more recent impact on the Straits of Hormuz: “Strategic shipping routes and choke points are increasingly being politicised as geopolitical and regional tensions rise. Meanwhile, Arctic waters have become focal points of international tension, with countries seeking control over emerging trade routes as ice melts.”

New regulations on emissions and fuel efficiency: owners know they will need to invest in lower-emission fuels – biofuels, ammonia, methanol – but are reluctant to commit until there is more certainty on which to adopt.

Tariffs and associated trade disruption bring additional challenges and increase uncertainty. While tariffs imposed by the US administration were widely anticipated, many have changed – some several times – since their initial announcement. This lack of clarity has created significant pressure on supply chains, disrupted established trade routes, and reduced confidence in long-term forecasting across the global maritime sector.

Space in shipyards is limited and building costs are high, driving shipowners to focus on maintaining existing assets and to upgrade/ retrofit assets instead of replacing.

The consequences of this worldwide trend are highlighted in the DNV report Maritime Safety Trends 2014–2024, which reports:

- Maritime casualties rose by 15% in 2024
- While incidents declined by 5% in the period 2014–2018, the figure has increased every year since
- Between 2018–2024, the number of incidents grew by 42%, while the number of vessels in the global fleet increased by just 10%
- Over half (52%) of all incidents in 2024 were attributable to vessels aged 20 years of age or older and 41% to vessels over 25 years old

Moreover, this is all at a time when we are seeing a 70% rise in the number of port detentions following PSC inspections in the last five years.

With a clear correlation between an ageing global fleet, an increase in safety incidents, and an increase in detentions there are significant consequences for the industry.



Types of incidents and deficiencies in an ageing fleet

According to the Allianz Safety & Shipping Review 2025, machinery damage/failure accounted for well over half of all shipping incidents globally (1,860) in 2024, followed by vessel collision (251) and fire/explosion.

There were 250 fire incidents during 2024, up by 20% year-on-year, the highest total for a decade, and fire/explosion is the second top cause of total losses (16%) over the past 10 years.

Against this backdrop, the critical question is not simply why incidents occur, but how vessel condition, maintenance discipline and emergency readiness influence the severity of an incident. The case studies that follow (pages16-19) highlight some of the most common deficiencies we find on board during inspections. In many cases, these are not isolated faults, but indicators of wider weaknesses that have developed over time.

Maximising “the Prevention Dividend” to support an ageing fleet

A clear indicator from the extensive research we carried out for this White Paper – and our experience at Survitec – is that even at the lower-end charter rates, rigorous inspection services basically pay for themselves if they prevent the ‘one detention in three years’ that has become the expected norm.

Government and maritime regulations focus strongly on the impact of age on the vessel’s risk profile and the associated inspection requirements. For example, the Merchant Shipping (Port State Control) Regulations 2025 provides for

- expanded inspections of ships with a high-risk profile after 6 months from the previous inspection in the Paris MoU Region
- expanded inspections of oil, gas, or chemical tankers, bulk carriers or passenger ships more than 12 years of age and at intervals according to their risk profile.

The regulations also record that ships of any type which are repeatedly detained in the Paris MOU region will be refused access to ports and anchorages of member states. This demonstrates the real risk to ship owners and operators and the importance of avoiding a detention.

The ‘prevention dividend’ recognises the return on investment from expert proactive maintenance and safety inspections. It also acknowledges the benefits of working with a specialist safety partner to help maintain compliance and protect vessels and crews.

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The average age of a vessel involved in a total loss over the past 10 years is 29.

Allianz Safety and Shipping Review 2025

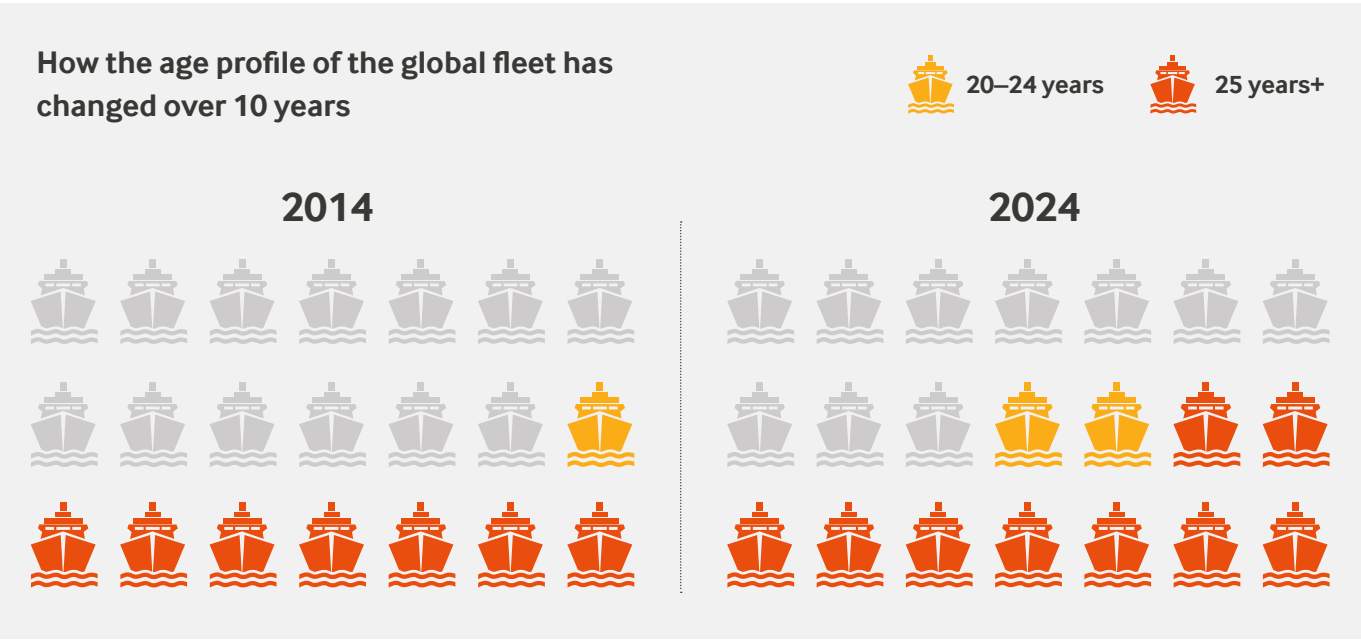
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Although decarbonization and digitalization are driving rapid transformations, geopolitical and economic shifts are introducing new uncertainties and leading to a range of side effects, most notably an increasingly ageing fleet.

Knut Ørbeck-Nilssen, CEO, DNV Maritime

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Case studies:

Fire safety issues that contribute to PSC detention

CO₂ discharge pipework

CO₂ fixed fire extinguishing systems are critical for protecting enclosed, high-risk spaces such as engine rooms, cargo holds and pump rooms. With system integrity essential to fire suppression performance and personnel safety, SOLAS and IMO requirements mandate inspection and maintenance procedures, such as routine visual examination of cylinders, distribution pipework, valves and manifolds for signs of corrosion leakage, mechanical damage or inadequate support.

These images show **advanced corrosion affecting CO₂ discharge pipework**. On the left, loss of material integrity is clearly visible; in the right-hand image, wall thinning and structural weakening increase the risk of the pipe rupturing under discharge pressure.

From a PSC perspective, defects of this kind contribute directly to detention under fire safety-related findings.



Fixed foam firefighting systems

These systems are a primary fire protection measure for controlling flammable liquid fires involving oil, fuel and chemical cargoes and are therefore safety-critical on oil, chemical and product tankers. Their function is to form a stable foam blanket over the fuel surface, suppress vapour release, exclude oxygen and prevent re-ignition. To achieve this, the foam proportioning arrangement must deliver water and foam concentrate within the specified ratio. Under-proportioning reduces foam stability and firefighting effectiveness; over-proportioning may impair discharge characteristics and application performance. Routine inspection and testing are essential to verify correct proportioning, maintain system integrity and identify deterioration within the concentrate, proportioner and distribution pipework.

The photographs illustrate two common but significant defects: **failure of diaphragms within the proportioning arrangement, and internal fouling or blockage within associated pipework**. Diaphragm degradation, whether caused by fatigue or pressure imbalance, can result in dilution of the foam concentrate and incorrect proportioning. Over time this may also contribute to contamination, crystallisation, restricted flow and unreliable discharge, materially reducing the system's ability to perform as intended in an emergency.

From a PSC perspective, defects of this nature may not always be identified during a routine visual inspection, particularly where the relevant components are internal and the system is

not opened for detailed examination. However, where visible condition, test evidence, maintenance records or other indicators call into question the integrity of the foam concentrate, proportioning arrangement or distribution lines, the operational readiness of the installation may be challenged. On tankers, where deck foam systems form part of the vessel's principal fire-extinguishing capability, such concerns may increase the likelihood of a serious deficiency being recorded and, depending on the wider condition of the system and supporting evidence, may contribute to detention.



Case studies:

Fire safety issues that contribute to PSC detention

Water mist valves and nozzles

Water mist is widely used as a first-response Local Application Fire-Fighting (LAFF) system because it can be discharged immediately within the protected space, without requiring prior evacuation.

The system operates by forcing water through specialised nozzles to generate fine droplets of a controlled size. To maintain performance, annual inspections must confirm that nozzles are clean and free from any obstructions that could impair droplet formation.

These images show **two common failure points: a corroded valve and a blocked nozzle**. Corrosion can seize valve handles, jam internal mechanisms and obstruct ports, while nozzles that are blocked by rust, dust – or, as in this example, coats of paint – can prevent correct mist generation. In either case, the system will fail to discharge effectively when needed.

For PSC inspectors, such defects are clear indicators of poor maintenance control and degraded emergency readiness.



Portable fire extinguishers

Portable fire extinguishers form part of the vessel's first-response firefighting capability and must be maintained in a ready-for-use condition.

These images show the internal condition of extinguishers, highlighting two serious but common maintenance deficiencies and illustrating how performance can deteriorate over time. In the left-hand image, **advanced corrosion has affected the extinguisher body**, raising concerns about structural integrity and the risk of rupture. In the right-hand image, the **dry powder has compacted and solidified**, meaning the extinguisher may not discharge as intended when operated. Defects of this kind directly undermine the reliability of first-response firefighting equipment.

From a PSC perspective, extinguishers showing visible deterioration, loss of serviceability or evidence of poor maintenance are not minor defects; they may be treated as indicators of degraded fire readiness and wider maintenance control failures, particularly where multiple units are affected.





Case studies:

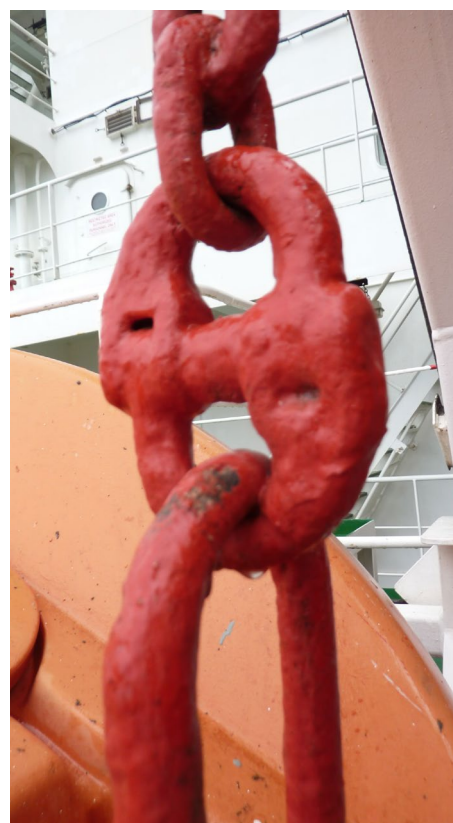
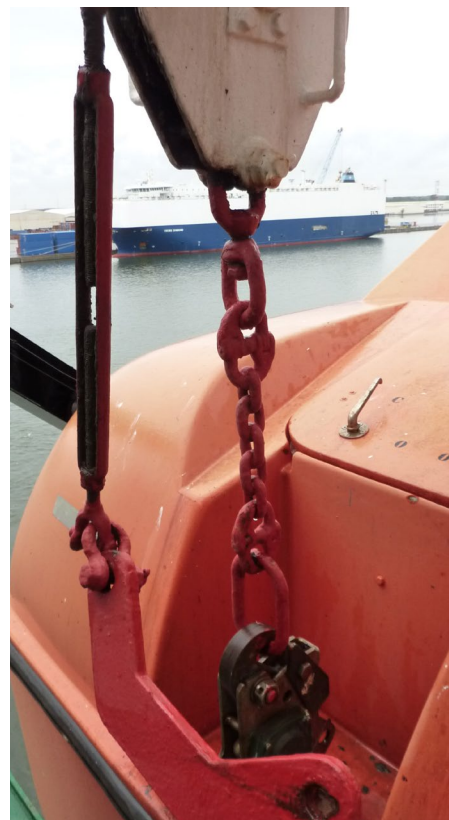
Lifeboat safety issues that contribute to PSC detention

Davit suspension assemblies

Davit suspension assemblies form part of the lifeboat launching and recovery arrangement and are therefore safety-critical lifting components. However, these assemblies are frequently found heavily over-painted, contrary to manufacturer guidance, which can obscure corrosion, wear, cracking and other signs of deterioration, while also preventing effective verification of markings and certification.

From a PSC perspective, lifting components whose condition cannot be properly assessed, or whose continued serviceability cannot be demonstrated, may be treated as unsafe or insufficiently maintained, particularly where visible corrosion, coating build-up or missing traceability raise doubt over their fitness for use.

In addition, while MSC.402(96) mandates the periodic renewal of fall wires and hooks there is no equivalent mandatory replacement interval for the chain and link elements within the lifting assembly. As a result, these components may remain in service for 15–25 years with little or no intervention. This creates a recognised gap in lifecycle control for ageing lifeboat systems. As a member of ILAMA (International Lifesaving Appliance Manufacturer's Association), which has brought this matter to the attention of the IMO, Survitec is working to address this gap and recommends replacement at five-year intervals or periodic non-destructive testing (NDT) as a proactive risk-control measure.



Case studies:

Lifeboat safety issues that contribute to PSC detention

Lifeboat air cylinders

Air cylinders installed within lifeboats are typically located in the lowest sections of the boat, often within bilge spaces where seawater ingress, trapped moisture and poor drainage create a highly corrosive environment. This makes them particularly vulnerable to corrosion of regulators, fittings and connections, as well as pitting and wall thinning of the cylinder body itself. If corrosion progresses unchecked, the result may be loss of pressure integrity or, in severe cases, rupture under service pressure.

From a PSC perspective, pressure vessels and associated operating components showing visible corrosion, poor condition or inadequate maintenance history may be treated as evidence that the survival craft is not fully ready for use. In this context, what appears to be a localised corrosion issue can escalate into a wider finding of degraded lifeboat readiness and poor maintenance control.



Lifeboat release gear diaphragms

Lifeboat release gear hydrostatic diaphragms are among the most frequently overlooked components in ageing lifeboat systems, largely because they are difficult to access and time-consuming to replace. As a result, they may not be replaced as per OEM instructions during routine inspection and servicing, particularly where inspection scope is limited as a result of time and cost pressures. This creates a high-risk blind spot within the maintenance regime, because diaphragm deterioration is not always externally visible and failure is often sudden rather than progressive.

In ageing fleets, where components may already be operating beyond their original service assumptions, this risk becomes more pronounced.



Choosing the right safety partner

Rigorous safety inspections, performed in line with flag and class requirements, are an important safeguard against faults, non-compliance and potential detentions. However, not all providers offer the same levels of technical expertise, service quality or inspection discipline.

Investing in a robust annual inspection regime can potentially save thousands in helping owners and operators protect against avoidable faults, maintain compliance and reduce the risk of detention – as well as protecting reputation, strengthening the vessel’s risk profile and helping reduce potential insurance exposure. In this context, choosing the right safety partner is a key risk-management decision.

In our White Paper from 2024, where we explored concerns about declining fire safety compliance, we highlighted evidence of a wide variation in service quality across the market. Common issues reported in the field include incorrect or poorly fitted parts, lower-quality parts that deteriorate and fail prematurely, and cases where service documentation does not appear to reflect the actual condition of the equipment inspected.

For ship owners and operators, this underlines the importance of selecting a provider able to demonstrate technical competence, consistent inspection standards and a clear understanding of applicable IMO, flag and class requirements.

A rigorous provider should be able to document work clearly, provide detailed inspection reports and show which checks have been completed against the relevant requirements. This helps ensure inspections are meaningful assessments of equipment condition and compliance readiness, not simply administrative exercises.

Providers should also be able to demonstrate how they maintain technician competence, keep pace with changing regulations and support both OEM and multi-brand equipment through appropriate training, procedures and quality controls.



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There are strong benefits from working with global providers who can offer the same level of service port-to-port, underpinned by a more streamlined service operation.

Jan-Oskar Lid
Technical Sales and Support Manager, Survitec



The benefits of longer-term service relationships

The key to mitigating risk and supporting all vessels effectively, particularly older ones, is having an in-depth understanding of how requirements change as the vessel ages, and how ship structures, safety systems and equipment need to be maintained over time to remain compliant and safe.

Overall, while the industry’s new buzzword of ‘generic compliance’ may no longer be sufficient to meet more stringent PSC requirements, the focus for ship owners and operators needs to be on continuing, rigorous, proactive – and documented – maintenance. This means ongoing investment in crew training and working with a safety partner who does not just hand over an ultimately worthless certificate but will make sure that equipment is maintained and working in line with the applicable standards and regulations.

While service inspections are often requested and supplied on demand, longer-term safety agreements or safety management services can offer significant benefits. By building an ongoing relationship with a specialist provider, ship owners and managers can effectively outsource key elements of safety risk management to a partner that understands the vessel, its equipment history, servicing cycles and compliance obligations. This supports more proactive maintenance planning, due date harmonisation and earlier identification of ageing components, regulatory changes, or upgrade needs. In this way, longer-term service relationships can reduce administrative burden, limit avoidable disruption and help owners and operators maintain safety-critical equipment with greater confidence, delivering:

Expert support with maintenance

- High-quality safety inspections performed by specialist technicians
- Timely replacement of ageing components

Expert support with regulatory compliance

- Proactive, personalised due date management
- Timely advice on new requirements (interpretation & implementation)

Advice on new technologies and retrofits

- System and equipment upgrades
- New products and services that help mitigate risk

Expert support and reassurance for crew

“
A PSC detention can turn quickly from a seemingly minor operational inconvenience into a significant long-term financial impact event, yet is driven by predictable, preventable failures.

Safety faults and vessel detentions incur significant cost – but rigorous annual inspections protect against it.

Metkel Yohannes
Chief Portfolio Officer, Survitec

Survitec safety services for the maritime industry

Metkel Yohannes explains how Survitec’s approach to safety inspections is informed by decades of experience as an OEM to ensure failsafe protection at sea.

“As an Original Equipment Manufacturer (OEM) and a leading provider of survival technology to the maritime industry, we know this equipment inside out. We work closely with regulatory bodies to keep up-to-date with the rules and regulations for the different flags and classes. We also understand the importance of regular inspections and help to define the requirements for the different service intervals. But, ultimately, it is our commitment to excellence and our purpose to protect lives that drives us to deliver meticulous inspections that will keep your seafarers and assets safe, while also minimising the risk of costly, unplanned repairs.”

The Survitec difference:

The benefits of choosing Survitec as your safety service partner



Global coverage
Coverage of all key ports across 50 countries, 365 days a year, plus flying squads for emergency repairs



Highly-skilled technicians
Trained & approved to international standards to inspect & repair equipment across multiple brands



High quality parts
Fit-for-purpose spare & replacement parts, readily available across all global trading routes



Due date management
Full service agreements with your own dedicated account manager, for personalised support with compliance



Flexibility built in
Services can be delivered across multiple ports to accommodate globally-trading fleets



Clear pricing
Transparent pricing that allows you to budget more easily, with no hidden charges

References

Core Memorandum of Understanding (MoU) on Port State Control (PSC) regimes (primary datasets): Paris MoU, Tokyo MoU, Mediterranean MoU, Black Sea MoU;
National authorities: Australian Maritime Safety Authority (AMSA), United States Coast Guard
Aggregated / industry analytics: RISK4SEA, DNV (including Maritime Safety Trends 2014-2024 report), American Bureau of Shipping, World Ports
Allianz Safety and Shipping Review 2025 ([Allianz](#))

AMSA Annual PSC Report 2025 (inspection & deficiency trends) ([Robban Assafina](#))
DNV PSC detention summary (deficiency categories & patterns) ([DNV](#))
MarineTraffic / industry PSC snapshot (inspection & detention rates) ([shipvet.com](#))
RISK4SEA global detention statistics (3-year global view) ([RISK4SEA](#))
AMSA historical detention performance by ship type ([amsa.gov.au](#))
Academic research on detention duration and drivers ([ScienceDirect](#))

MSC.402(96) compliant

OUR GLOBAL MULTI-BRAND LIFEBOAT INSPECTION

1Annual and 5-year inspections meeting SOLAS Chapter III and IMO MSC.402(96) requirements.

2Authorised multi-brand inspection covers all lifeboats, rescue boats, davits and hooks.

3All work carried out to consistent global standards by Survitec’s multi-skilled certified Technicians.

4Fire systems and personal lifesaving equipment can be included.

5Unrivalled global network with 60+ Flag authorisations and Global Class approvals.

6Single point-of-contact streamlines administration and logistics.

7Harmonised due dates reduces visit frequency and cost, with proactive due date monitoring and alerts enhancing compliance.

8Repair, refurbishment or replacement recommendations provided on completion of inspections.

9Some repairs and refurbishments can be carried out on-the-spot to save the time and cost of repeat visits.

10Supply and commissioning of new or replacement lifeboats, rescue boats, davits and hooks.

11Fixed price agreements help control costs.

12Port and service priority worldwide eliminates delays.





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