

PSC Inspection Checklist: Top 10 Deficiencies & How to Avoid Them

港口国监督检查清单：十大常见缺陷及规避指南

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Purpose / 目的: This guide identifies the ten most frequent Port State Control (PSC) deficiencies leading to vessel detentions, based on publicly available data from the United States Coast Guard PSIX database and the European Maritime Safety Agency (EMSA) THETIS system. Each entry explains the regulatory context, describes typical findings, and provides practical prevention measures that shipowners and technical managers can implement immediately.

本指南基于美国海岸警卫队PSIX数据库和EMSA THETIS系统的公开数据，列举导致船舶滞留的最常见十项PSC缺陷。每一条目均说明法规依据、描述典型发现，并提供船东和技术经理可立即实施的实用预防措施。

How to use this guide / 使用说明: Review each item before every port call. Use the checklist as a pre-arrival inspection framework. The prevention measures are designed for direct integration into your Planned Maintenance System (PMS) and Safety Management System (SMS). / 在每次挂靠港口前逐项检查。将此清单作为到港前检查框架。预防措施可直接整合到您的计划保养系统（PMS）和安全管理体（SMS）中。

1 Fire Safety Deficiencies 消防安全缺陷

REGULATION SOLAS Chapter II-2, ISM Code, FSS Code

DESCRIPTION

Fire safety consistently ranks #1 in PSC detentions globally. Common findings include: inoperative fire dampers, corroded fire main piping, expired portable extinguishers, blocked escape routes, malfunctioning fire detection systems, and crew inability to demonstrate proper use of fire-fighting equipment. Engine room fire risks are particularly scrutinized — dirty bilges, leaking fuel oil pipes, and missing insulation on hot surfaces are instant detainable deficiencies. USCG and Paris MoU data show that 15-20% of all PSC detentions involve fire safety issues.

描述

消防安全在全球港口国监督滞留中始终排名第一。常见发现包括：防火挡板失效、消防总管腐蚀、手提灭火器过期、逃生通道阻塞、火灾探测系统故障，以及船员无法正确演示消防设备使用。机舱火灾风险尤其受到严格检查——脏污的舱底、泄漏的燃油管道和高温表面缺失隔热层均为可滞留缺陷。USCG和巴黎备忘录数据显示，15-20%的PSC滞留涉及消防安全问题。

PREVENTION / HOW TO AVOID

1) Conduct a pre-arrival fire safety walkthrough using the PSC checklist format — verify all fire dampers operate, test emergency fire pump, inspect all extinguishers. 2) Ensure engine room is spotlessly clean — no oil in bilges, no rags on hot surfaces, all cable penetrations sealed. 3) Run a fire drill within 24 hours before port arrival; document it. 4) Verify the Fire Control Plan is updated, posted, and matches the actual ship layout. 5) Check that all remote stops (fuel pumps, fans) function correctly.

规避措施

1) 在到港前使用PSC检查清单进行消防安全排查——验证所有防火挡板、测试应急消防泵、检查所有灭火器。2) 确保机舱无油污——舱底无油、高温表面无抹布、所有电缆穿孔已密封。3) 到港前24小时内进行消防演习并记录。4) 确认防火控制图已更新、已张贴并与实际船舶布局一致。5) 检查所有远程切断装置（燃油泵、风机）功能正常。

2 Life-Saving Appliances (LSA) 救生设备缺陷

REGULATION SOLAS Chapter III, LSA Code

DESCRIPTION

LSA deficiencies are the second most common cause of PSC detention. Typical findings: lifeboat engines fail to start on first attempt, launching davits are corroded or poorly maintained, lifebuoys missing retro-reflective tape, immersion suits with torn seals, EPIRB/SART batteries expired, and muster lists not updated.

Lifeboat drills reveal crew unfamiliarity with launching procedures. The Paris MoU consistently reports that lifeboat-related deficiencies account for approximately 12% of all detainable deficiencies.

描述

救生设备缺陷是PSC滞留的第二大原因。典型发现包括：救生艇发动机首次启动失败、降落装置腐蚀或维护不良、救生圈缺少反光带、浸水服密封撕裂、EPIRB/SART、EPIRB/SART电池过期、应变部署表未更新。救生艇演习经常暴露出船员对降落程序不熟悉。巴黎备忘录持续报告救生艇相关缺陷约占所有可滞留缺陷的12%。

PREVENTION / HOW TO AVOID

1) Test lifeboat engines weekly; ensure they start within 2 seconds and run for at least 3 minutes. 2) Inspect all davits, falls, and release hooks monthly — lubricate and document. 3) Verify expiry dates on ALL pyrotechnics (flares, smoke signals), EPIRB hydrostatic releases, and SART batteries. 4) Update muster list after every crew change; ensure it is posted in multiple locations. 5) Conduct abandon-ship drill monthly; rotate crew roles so everyone practices launching.

规避措施

1) 每周测试救生艇发动机；确保2秒内启动并运行至少3分钟。2) 每月检查所有吊艇架、吊索和释放钩——润滑并记录。3) 核实所有烟火信号（火焰信号、烟雾信号、EPIRB）、EPIRB静水释放器和SART电池的有效期。4) 每次船员更换后更新应变部署表；确保多处张贴。5) 每月进行弃船演习；轮换船员角色确保每人练习降落操作。

3 MARPOL Annex I — Oil Pollution Prevention MARPOL附则I——防止油污染

REGULATION MARPOL Annex I, Reg. 12-17

DESCRIPTION

Oil pollution prevention deficiencies are a major focus of all PSC regimes. The most frequent findings: oily water separator (OWS) malfunction or intentional bypass, oil record book entries inconsistent with sounding logs and sludge tank capacity, 15 ppm bilge alarm not calibrated, SOPEP (Shipboard Oil Pollution Emergency Plan) not vessel-specific or outdated, and sludge tank pumping arrangements not clearly marked. The IOPP certificate conditions not matching actual equipment is a red flag. USCG intensified its OWS scrutiny under the "zero tolerance" policy.

描述

防止油污染缺陷是所有PSC体系重点关注对象。最常见发现：油水分离器故障或故意旁通、油类记录簿记录与测深日志和油渣柜容量不一致□15ppm、15ppm舱底水报警装置未校准□SOPEP、SOPEP未针对具体船舶编制或已过时，以及油渣柜泵送布置未明确标识□IOPP。IOPP证书条件与实际设备不符是严重警告信号□USCG。USCG在“零容忍”政策下加强了OWS检查力度。

PREVENTION / HOW TO AVOID

1) Test OWS and 15 ppm alarm system before EVERY port arrival — verify auto-stop valve functions. 2) Reconcile Oil Record Book entries with engine room logbook, sounding book, and sludge shore disposal receipts — any discrepancy = detainable. 3) Ensure SOPEP is vessel-specific with current shore contacts, and a copy is available on the bridge. 4) Train all engineering officers on OWS operation and Oil Record Book entry requirements (use the IMO guidelines for ORB Part I). 5) Label all piping, valves, and tanks clearly per the approved pipeline diagram.

规避措施

1) 每次到港前测试油水分离器和15ppm报警系统——验证自动停止阀功能。2) 核对油类记录簿与机舱日志、测深记录和油渣岸上接收收据——任何不一致=可滞留。3) 确保SOPEP针对具体船舶编制，包含当前岸上联系方式，并在驾驶台备有副本。4) 对所有轮机员进行OWS操作和油类记录簿填写培训（使用IMO ORB Part I指南）。5) 按照批准的管路图清晰标识所有管路、阀门和油柜。

4 ISM Code — Safety Management System Failures ISM规则——安全管理体系失效

REGULATION ISM Code (SOLAS Chapter IX)

DESCRIPTION

ISM-related detentions are rising sharply as PSC inspectors increasingly look beyond equipment to management systems. Key issues: non-conformities from last audit not closed out, master's review of SMS not conducted, crew unfamiliar with company SMS procedures, maintenance records not kept per the planned maintenance system (PMS), and emergency preparedness drills not documented per SMS requirements. PSC inspectors check whether reported deficiencies reflect a systemic failure — a pattern of similar deficiencies indicates ISM non-compliance and can lead to detention.

描述

ISM相关滞留数量急剧上升□PSC，PSC检查官越来越多地从设备检查转向管理体系审查。关键问题：上次审核的不符合项未关闭、船长未进行SMS复查、船员不熟悉公司SMS程序、未按计划保养系统保存维保记录、应急准备演习未按SMS要求记录□PSC。PSC检查官会评估所发现缺陷是否反映系统性失效——类似缺陷的模式表明ISM不合规，可导致船舶滞留。

PREVENTION / HOW TO AVOID

1) Close ALL external audit non-conformities before port entry — have documented evidence ready. 2) Master's SMS review must be conducted quarterly with signed records; make it substantive, not a tick-box exercise. 3) Each crew member should carry a personal familiarization checklist proving they know their SMS duties. 4) Run a "PSC drill" monthly — simulate a full PSC inspection with an internal auditor. 5) Maintain a "PSC readiness file" with: last 3 inspection reports, closed NCs, drill records, crew familiarization records, and maintenance history.

规避措施

1) 在进港前关闭所有外部审核不符合项——准备好书面证据。2) 船长SMS复查必须每季度进行并签字记录；确保实质内容而非走过场。3) 每位船员应持有个人熟悉检查清单，证明其了解自身SMS职责。4) 每月进行"PSC演习"——由内审员模拟全面PSC检查。5) 维护"PSC准备档案"包含：最近3次检查报告、已关闭的不符合项、演习记录、船员熟悉记录和维保历史。

5 Structural Condition & Watertight Integrity 船体结构状况与水密完整性

REGULATION SOLAS Chapter II-1, Load Line Convention

DESCRIPTION

Structural deficiencies are increasingly common as the global fleet ages. PSC inspectors focus on: wastage/corrosion of hatch covers and coamings, cracked or holed ballast tank boundaries, wasted vent pipes and air pipes on deck, cargo hold bulkhead corrosion, and watertight door seal deterioration. Hatch cover leakage is the single most common structural detainable item — hydraulic testing or ultrasonic thickness measurement may be requested. A surprising number of detentions result from portside shell plating damage from contact with quays/pilings that was not reported or repaired.

描述

随着全球船队老化，结构缺陷日益常见于PSC。PSC检查官重点关注：舱口盖和舱口围板腐蚀/损耗、压载舱边界板裂纹或穿孔、甲板通风管和空气管损耗、货舱舱壁腐蚀、水密门密封老化。舱口盖泄漏是最常见的可滞留结构项目——可能要求进行水压试验或超声波测厚。相当数量的滞留源于船舷与码头/桩基接触造成的外板损伤未报告或未修复。

PREVENTION / HOW TO AVOID

1) Conduct ultrasonic thickness measurement (UTM) of hatch covers, coamings, and ballast tank boundaries at every dry dock — track wastage rates. 2) Hose-test hatch covers after every cargo operation; document results with photos. 3) Inspect all watertight doors monthly — check gaskets, closing mechanisms, and remote indicators. 4) Walk the main deck before arrival — look for wasted vent pipes, air pipe heads, and sounding pipes; these are easy PSC targets. 5) Report and repair even minor hull contact damage immediately — unrepaired damage seen during PSC is automatically detainable.

规避措施

1) 每次坞修时对舱口盖、舱口围板和压载舱边界板进行超声波测厚——跟踪损耗速率。2) 每次货物作业后进行舱口盖冲水试验；拍照记录结果。3) 每月检查所有水密门——检查密封条、关闭机构和遥控指示器。4) 到港前巡查主甲板——检查损耗的通风管、空气管头及测深管；这些是PSC检查的常见目标。5) 即使轻微船体接触损伤也应立即报告和修理——PSC检查中发现未修复损伤将直接导致滞留。

6 Navigation Safety & ECDIS 航行安全与电子海图

REGULATION SOLAS Chapter V, STCW

DESCRIPTION

Navigation safety deficiencies have evolved significantly with the ECDIS mandate. Current top findings: ECDIS not updated to latest IHO standards, charts not corrected to latest Notices to Mariners, AIS transmitting incorrect static data, VDR/S-VDR not recording properly, bridge navigational watch alarm system (BNWAS) disabled or on minimum settings, magnetic compass deviation card expired, and navigation lights not operational. Officers unable to demonstrate ECDIS route planning, safety depth settings, and manual position fixing is a growing concern.

描述

随着ECDIS强制实施，航行安全缺陷模式发生了显著变化。当前主要发现□ECDIS：ECDIS未更新至最新IHO标准、海图未按最新航海通告改正□AIS、AIS传输的静态数据不正确□VDR/S-VDR、VDR/S-VDR未正常记录、驾驶台航行值班报警系统被禁用或设置为最小值、磁罗经自差表过期、航行灯不工作。驾驶员无法演示ECDIS航线规划、安全水深设置和手动定位是日益严重的问题。

PREVENTION / HOW TO AVOID

1) Update ECDIS to the latest IHO presentation library; verify all permits are valid and charts are corrected weekly. 2) Conduct a full navigation equipment test 24 hours before arrival — GPS, radar, AIS, gyro, echo sounder, speed log. 3) Verify AIS static data (ship name, MMSI, dimensions, antenna positions) against the ship's certificates. 4) Ensure all bridge officers have completed type-specific ECDIS familiarization — maintain training records. 5) Check all navigation lights (including NUC, RAM, and towing lights if applicable) — carry spare bulbs.

规避措施

1) 将ECDIS更新至最新IHO显示库；验证所有许可有效且海图每周改正。2) 到港前24小时进行全面导航设备测试——GPS□、雷达□AIS□、AIS□、电罗经、回声测深仪、计程仪。3) 对照船舶证书核实AIS静态数据（船名□MMSI□、MMSI□、尺寸、天线位置）。4) 确保所有驾驶台驾驶员已完成特定型号ECDIS熟悉培训——保留培训记录。5) 检查所有航行灯（如适用包括失控灯、操纵能力受限灯和拖带灯）——携带备用灯泡。

7 MLC — Hours of Work/Rest & Crew Welfare 海事劳工公约——工作/休息时间与船员福利

REGULATION MLC 2006, STCW Convention

DESCRIPTION

MLC 2006 compliance is now a mandatory PSC inspection item, and detentions for crew welfare issues are increasing. Common findings: hours of work/rest records showing systematic non-compliance (fatigue risk), seafarer employment agreements (SEA) not signed by both parties or not in working language, unpaid wages or incomplete pay records, food and catering deficiencies (insufficient provisions, unclean galley), crew accommodation not meeting minimum standards (leaks, broken HVAC, infestation), and medical stores expired or incomplete. The Paris MoU now coordinates with ITF inspectors on crew welfare detentions.

描述

MLC 2006合规现已成为PSC强制检查项目，船员福利相关滞留正在增加。常见发现：工作/休息时间记录显示系统性违规（疲劳风险）、海员就业协议未经双方签署或非工作语言版本、工资未支付或记录不完整、饮食和餐饮缺陷（食品不足、厨房不洁）、船员起居舱室不符合最低标准（漏水、暖通空调损坏、虫害），以及医疗药品过期或不完整。巴黎备忘录现与ITF检查官协调处理船员福利滞留。

PREVENTION / HOW TO AVOID

1) Audit hours of rest records monthly — any patterns of less than 77 hours/week or non-compliance with the 10-hours-in-24 rule must be addressed before port entry. 2) Verify every crew member has a signed SEA in English (or working language), with all pages present. 3) Check wage accounts are paid monthly and receipts are signed — unpaid wages >2 months is detainable. 4) Inspect galley, provisions stores, and crew cabins monthly — document with photos. 5) Review medical chest inventory — replace expired medications and ensure the certified medical chest certificate is valid.

规避措施

1) 每月审核休息时间记录——任何少于77小时/周或违反24小时内10小时休息规定的模式必须在进港前处理。2) 核实每位船员持有英文版（或工作语言版）已签署的SEA，所有页面齐全。3) 确认工资按月支付并由船员签收——超过2个月未付工资可导致滞留。4) 每月检查厨房、食品库和船员舱室——拍照记录。5) 检查医疗药品清单——更换过期药品并确保医疗箱证书有效。

8 Emergency Systems & Drills 应急系统与演习

REGULATION SOLAS Chapter II-2, III; ISM Code

DESCRIPTION

Emergency preparedness is tested during every PSC inspection through drills. Common deficiencies: emergency generator fails to start or does not supply required load within 45 seconds, emergency fire pump unable to deliver required pressure at the bridge/funnel, emergency lighting not functioning in muster stations and lifeboat embarkation areas, emergency steering gear drill not conducted or recorded, and crew slow or confused during abandon-ship/fire drills. PSC inspectors increasingly demand a "realistic" drill — not a rehearsed performance — and will detain ships where crew clearly lack emergency response competence.

描述

应急准备能力在每次PSC检查中均通过演习进行测试。常见缺陷：应急发电机无法启动或未在45秒内提供所需负荷、应急消防泵无法在驾驶台/烟囱处提供所需压力、集合站和救生艇登乘区域应急照明失效、应急操舵演习未进行或未记录、船员在弃船/消防演习中行动迟缓或混乱。PSC。PSC检查官越来越多地要求“真实”演习——而非排练好的表演——并会滞留船员明显缺乏应急能力的船舶。

PREVENTION / HOW TO AVOID

1) Weekly: test emergency generator on-load for at least 30 minutes — verify automatic start and load transfer within 45 seconds. 2) Monthly: test emergency fire pump at the most remote hydrant; record pressure achieved. 3) Before arrival: test all emergency lighting (muster stations, boat stations, engine room escape routes). 4) Conduct unannounced drills at different times (including night hours) — PSC inspectors expect genuine competence, not scripted responses. 5) Maintain the Emergency Towing Booklet (for tankers) and ensure it is readily available on the bridge.

规避措施

1) 每周：应急发电机带负荷测试至少30分钟——验证45秒内自动启动并转换负荷。2) 每月：在最远消防栓测试应急消防泵；记录达到的压力。3) 到港前：测试所有应急照明（集合站、救生艇站、机舱逃生通道）。4) 在不同时间（包括夜间）进行未事先通知的演习——PSC检查官期望真实能力而非脚本表演。5) 维护应急拖带手册（适用于液货船）并确保驾驶台可随时取用。

9 MARPOL Annex IV/V/VI — Sewage, Garbage & Air Pollution MARPOL附则IV/V/VI——生活污水、垃圾与大气污染

REGULATION MARPOL Annex IV, V, VI

DESCRIPTION

Environmental compliance beyond oil pollution is an area of increased PSC focus, particularly in US, EU, and Australian waters. Key findings: sewage treatment plant not operating or bypassed in restricted waters, garbage management plan not vessel-specific, garbage record book not properly maintained, incinerator not working, ozone-depleting substances (HCFCs) still on board beyond phase-out dates, fuel oil sulphur content exceeding ECA limits (0.10% in EU/US emission control areas), and IAPP certificate conditions not matching actual equipment. MARPOL Annex VI fuel changeover procedures are increasingly scrutinized.

描述

油污染以外的环境合规是PSC检查日益关注的领域，特别是在美国、欧盟和澳大利亚水域。主要发现：生活污水处理装置在限制水域未运行或被旁通、垃圾管理计划非针对具体船舶编制、垃圾记录簿未正确维护、焚烧炉不工作、船上仍有超过淘汰日期的消耗臭氧层物质、燃油硫含量超过排放控制区限值□EU/US

（EU/US排放控制区为0.10%），以及IAPP证书条件与实际设备不符□MARPOL。MARPOL附则VI燃油转换程序正受到越来越多的检查。

PREVENTION / HOW TO AVOID

1) Verify sewage treatment plant is operating correctly before entering restricted waters — test effluent quality if possible. 2) Update garbage management plan to be vessel-specific with current placards posted. 3) Reconcile garbage record book entries against actual garbage discharge receipts and incinerator usage logs. 4) Check bunker delivery notes for sulphur content — maintain at least 3 months of records; ensure changeover procedures are documented with timestamps for ECA entry/exit. 5) Remove all HCFCs (R-22 refrigerant) before your next PSC inspection — this is now a zero-tolerance detainable item in Paris MoU and USCG.

规避措施

1) 进入限制水域前验证生活污水处理装置运行正常——如可能测试出水水质。2) 更新垃圾管理计划使其针对具体船舶，张贴最新公告牌。3) 核对垃圾记录簿与实际垃圾岸上接收收据和焚烧炉使用日志。4) 检查燃油供油单的硫含量——保存至少3个月记录；确保ECA进出转换程序有含时间戳的记录。5) 在下次PSC检查前移除所有HCFC制冷剂——这在巴黎备忘录和USCG现为零容忍可滞留项。

10 Load Line, Stability & Water/Weathertight Condition 载重线、稳性与水密/风雨密状况

REGULATION ICLL 1966/1988 Protocol, SOLAS II-1

DESCRIPTION

Load line and stability deficiencies often result from gradual deterioration that goes unnoticed. Common PSC findings: ventilators and air pipes with corroded or missing closing appliances, hatch wedge condition and spacing not per the approved drawing, cargo securing manual not vessel-specific or not in working language, stability information not approved or not available for the current loading condition, water/weathertight door seals perished, freeing ports blocked, and guardrails wasted or missing sections. The Load Line Convention requires that ALL closing appliances remain effective — a single wasted ventilator coaming can technically justify detention.

描述

载重线和稳性缺陷常因逐渐恶化而未引起注意□PSC。PSC常见发现：通风筒和空气管关闭装置腐蚀或缺失、舱盖压紧楔状况和间距不符合批准图纸、货物系固手册非针对具体船舶编制或非工作语言版本、稳性资料未经批准或不适用于当前装载状况、水密/风雨密门密封老化、排水口阻塞、栏杆损耗或缺损。载重线公约要求所有关闭装置保持有效——一个损耗的通风筒围板在技术层面即构成滞留理由。

PREVENTION / HOW TO AVOID

1) Walk the weather deck systematically before port arrival — check every ventilator, air pipe, sounding pipe, and hatch cleat; replace wasted items immediately. 2) Verify the stability booklet is approved, signed, and calculated for the current cargo/ballast condition — PSC will ask to see this. 3) Ensure the Cargo Securing Manual is vessel-specific, in the crew's working language, and available on the bridge. 4) Test all watertight doors (especially shaft tunnel and engine room doors) — check both local operation and remote indicators. 5) Verify the Load Line mark is clearly visible, permanently marked, and not painted over — this is the first thing a surveyor checks.

规避措施

1) 到港前系统巡查露天甲板——检查每个通风筒、空气管、测深管和舱盖压紧器；立即更换损耗部件。2) 验证稳性计算书已经批准、签署并适用于当前货物/压载状态——PSC检查官会要求查看。3) 确保货物系固手册针对具体船舶、使用船员工作语言、驾驶室可查阅。4) 测试所有水密门（特别是轴隧和机舱门）——同时检查本地操作和遥控指示器。5) 确认载重线标志清晰可见、永久标记、未被油漆覆盖——这是验船师检查的第一项。

Targeting and Inspection System) — EU PSC inspection database; Paris MoU, Tokyo MoU, and Indian Ocean MoU annual PSC reports.

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