

Loss Prevention Bulletin - AVA/2014/0015

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P&I Condition Surveys & PSC Inspections 'A Cause for Concern'

Applicable to:	All Vessels
Region:	World-wide
Category:	Safety & Loss Prevention

About AVA Marine Group:

AVA Marine is a professional marine surveying and consultancy firm – founded and led by its principal marine surveyor Kaivan Chinoy. The Company provides a comprehensive range of specialist marine surveying & consultancy services primarily in Western Canada and the West Coast of United States. Kaivan has the combined practical experience of over 15 years in sea/shore positions and before founding AVA Marine, he was involved in extensive marine operations (vessel navigation, cargo handling, bulk, break-bulk, crude oil), accident investigations, project cargo risk management and marine cargo surveying including losses exceeding USD \$3,000,000 and project cargo supervisions valued at over USD 20,000,000.

To learn more about our marine surveying capabilities, visit our website at ava-marine.com

AVA Marine is also the member of the **AIMU** (American Institute of Marine Underwriters), **CBMU** (Canadian Board of Marine Underwriters) and **MIABC** (Marine Insurance Association of British Columbia)

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Background Information:

Every year hundreds of ship's get detained with many delayed beyond schedule sailing time due to deficiencies found by USCG / Transport Canada inspectors across North America and the same is true for rest of the world.

PSC Inspections:

PSC inspections are based on a ship's risk profile which is determined according to the type and age of ship, inspections record of the flag country, classification societies and the inspection record of the ship-owner in question. Following the application of these criteria, a high, normal or low risk profile will be attributed to the ship and obviously the frequency of inspections will be influenced by the risk profile of the ship. That said additional inspections may be carried out regardless of the time elapsed since the last inspection.

Condition Surveys:

Similarly P&I Condition Surveys are carried out at the request of the Club called Pre-entry Surveys, to ensure that their Members meet the requisite standards for safety, construction, seaworthiness, cargo worthiness, crew management, and vessel management.

Condition Surveys are also requested following a claim which could possibly have occurred due to a lapse in on board maintenance/management (e.g. leaking hatch covers leading to cargo loss) or if information is received from a third party e.g. PSC that the vessel is below Club standard with a detention history; or following a lengthy period of layup – which will often require a Re-activation Survey.

As the operators would be aware that their vessel's cargo-worthiness is of great concern to the Club, we as surveyors give this aspect of the survey special consideration. Having said that our focus is not just looking for problems related to the seaworthiness of the vessel like for example (incompetent crew, out-dated navigational charts, in-operational radar, cracks in shell plating etc.) or cargo-worthiness (defective hatch sealing arrangements, in-operational hold bilge NRV, leaking tank top man-hole covers etc.) but also to ensure that the various safety matters are dealt with – no matter how trivial and identify defects that are likely to expose the Owner and the Club to claims.

The aim should be to reduce or eliminate altogether the number of small claims – which in turn can be influential in reducing the number of large claims. This could easily be achieved by everybody onboard doing their bit in risks reduction – simple preventive strategies, most of which are no more than good seamanship could help avoid potential accidents and thus claims. The proverb 'ignorance is bliss' do not apply to ships! On a vessel ignoring even the basic safety rule could lead to huge fines, loss of life or even total loss of the vessel!

This article deals with most common issues / defects which are often found during Condition Surveys and PSC inspections and any combination of these defects are the leading cause for detentions. The purpose of this loss prevention bulletin is to assist the owners and operators address these issues and help Masters and Chief Engineers pay attention to the 'most common' items targeted during PSC inspections. Some of the deficiencies have been highlighted by means of actual photos taken during Condition Surveys or accompanying PSC inspectors.

The following should not in any way be construed as a complete list of deficiencies.

COMMON DEFECTS & NON-CONFORMITIES – ALL VESSELS

Security

- Lack of security – not been challenged when boarding the vessel
- Free to roam around the vessel unescorted and able to access restricted spaces
- Unable to demonstrate security procedures for MARSEC 1, 2 & 3

Mooring Areas

- Moorings lines worn out and / or with splices
- Mooring lines tied directly onto warping drum despite having spare bits.
- Fairleads broken / seized
- Holder (clip) for winch control lever missing
- Winch drum plate thinned / rusted
- Missing safety pin on anchor cable stopper
- Missing safety pin on winch clutch gear
- Corroded / wasted gratings of winch platform
- Corroded / wasted guard railings of winch platform
- Snap-back zone areas not marked / identified

Deck/ Outside Accommodation

- Severe wastage on deck with unauthorized and sub-standard inserts
- Stanchions on accommodation ladder corroded / wasted
- Fuel vent piping containment tray wasted and holed
- Steering flat vent at poop deck holed and wasted
- Pilot ladder securing arrangement on deck badly corroded
- Inoperable (seized / frozen) fire dampers and incorrectly labeled
- Significant non-compliance with hot work, enclosed space entry permit and procedures
- Unauthorised repairs of cracks on deck without notifying Class
- Deck fittings wasted from corrosion on Monkey Island e.g. cable supports, topmost signal light supports, radar waveguide clamps etc.
- Anti-skid coating in working areas and in safety walkways in poor condition.

Cargo Holds / Hatch Covers

- Sound pipes/ballast pipes missing guards in cargo holds and/or broken
- Hoppers found with multiple doublers / painted over to cover up
- Deformed bilge covers / unable to secure properly
- Cracks at corrugated bulkheads and grooving corrosion at the welded joint between the shell and the web plate
- Side and end cleats for hatch covers having excessive clearance in numerous places
- Hatch covers unable to close without using external means e.g. using chain blocks
- Hatch cover rubber packing (gaskets) missing or wrong length use
- Quick-acting cleats rubber (washer) worn out / rods and brackets heavily corroded
- Hatch drain holes clogged with previous cargo residues

Accommodation

- Vessel having insufficient food onboard for size of crew and duration of voyage
- Cross contamination of food in galley fridge and provision stores
- Inoperable crew toilets with broken wash basins and no running water
- Common bathroom floor covered in mould
- Garbage not segregated
- Galley staff unable to demonstrate operation of fixed extinguishing system for galley

Bridge

- Crew unable to demonstrate operation of MF/HF Digital Selective Calling (DSC), transmit and receive on either mains or battery power
- The deck log not showing entries when the Master turned over the con to the OOW and vice versa
- Vessel's contract for the chart/publication update certificate found expired
- Echo sounder not signed off when the vessel was all fast at the berth
- Bridge team unaware of basic vessel manoeuvring characteristics
- Bridge team unaware of company UKC and CPA policy
- Current voyage charts lacking secondary position fixing (P.I. / fixes using landmarks etc. during coastal passage not in use)
- Compass error log showing "overcast sky" throughout the last voyage (over 30 days)

Medical Locker

- Expired medicines
- Stretcher dry rotted and unusable
- Hospital toilet inoperable with broken wash basin
- Hospital area in unsanitary condition

Documentation

- Some of the certificates in doubt due to conflicting copies of document
- SMC (Safety Management Certificate) and/ or DoC (Document of Compliance) not available or not issued to current ship operators when owners changed hands
- No DRAs (detailed risk assessment) - Maintenance log showing work done on the mast (like chipping/painting). This falls under the "working afloat" category but no DRA in place.
- Clear evidence of falsification of records e.g. Rest hours, Oil Record Entries
- The Safety Management System, as implemented, fails to ensure that records of hours of work/rest are recorded accurately and the Master is unable to ensure that watch keepers are sufficiently rested as required by STCW.
- Records of rest for Master and Chief Engineer not maintained. First Engineer records of rest do not reflect actual hours worked.
- Garbage Record Book consisting of loose leaf numbered pages in a ring-binder and filled in advance
- ORB for the past 2 years not onboard / nor signed after each operation

Lifeboats

- Lifeboat radios found with expired batteries.
- Crew members unable to perform their assigned duties during abandon ship drill
- Missing immersion suits where vessel is trading world-wide
- Lifeboat unable to be lowered as re-con wire arrangement not extending far enough
- Unauthorised repairs to the lifeboat rudder brackets
- Lifeboat limit switches inoperable
- Mix dated food rations found with some expired
- Lifeboats, port & starboard, on-load release hooks not properly reset.

FFA/LSA & SAFETY

- Life jackets lights not functional
- SCBA set visor found cracked at places
- SCBA bottles found empty / not fully charged
- SCBA system valves found leaking air
- Fire hydrant valves found leaking/ caps & keys missing
- Fire Hoses found leaking and taped
- Emergency fire pump unable to take suction
- Emergency fire pump unable to start after multiple attempts / significant delay in starting
- Emergency generator not able to automatically connect to emergency switchboard when main power supply lost (blackout)
- Epoxy patch found on fire main line on deck
- Piping to fire main wasted, cracked and temporarily patched
- Fire hoses nozzles in engine room found frozen in closed position and inoperable
- Crew unable to demonstrate starting of the emergency generator
- Intentional shore connection bolts missing
- Fire control plan not updated with correct IMO symbols or updated crew list
- Portable foam applicator pick-up tubes dry and rotted / came apart when flexed
- SOLAS training manual not written in the working language of the crew and not specific to the vessel
- Fire main engine room isolation valve found defective - not able to be fully closed.
- Crew not familiar with carbon dioxide fixed extinguishing system operation
- Funnel dampers seized, holed and corroded
- During fire drill, one of the fire party member entering simulated engine room fire with no SCBA (USCG onboard)
- Emergency fire pump found defective / leaking heavily / unable to take suction
- Rescue boat found to be without fuel
- Crew unable to pressurise the fire main using emergency fire pump
- No immersion suits available in the immediate vicinity of the forward life rafts
- No eye wash solution kept at the chemical station and battery room
- No MSDS documentation for the chemicals stored on board

Machinery Spaces

- Ballast pump showing excessive leakage at packing
- Generators showing various fuel / oil leaks
- Steering pump seals found to be leaking
- OWS inoperable and unable to be tested and engine crew unable to demonstrate
- Cement patches found on seawater piping in engine room bilge near through hull fittings
- Main Engine high pressure (HP) fuel injector lines missing upper and lower sleeves (i.e. not jacked and screened)
- Missing non-conductive matting in front of the main electrical switchboard
- Excessive fuel and oil leakages on machinery and in E/R bilges
- Oil soaked lagging on boiler fuel/oil piping
- Generator turbochargers missing protective shielding on hot section
- Generator lube oil supply / return line replaced with hoses and reinforced with steel plates and copper wire wrapped around them
- Purifier room found with numerous oil leaks, oil soaked lagging, buckets of oil and diesel on floor plates
- Engine room funnel flaps and all engine room fan fire dampers defective.
- No procedure or checklists available for engine room unmanned machinery space operations (vessel running in UMS mode)
- Sewage tank detective and substantially wasted
- Main switchboard 440v and 220v system indicating 0 mega ohm reading
- Banded repairs found on freshwater generator pipework
- Boiler gauge glasses not fitted with extension wires & handles from water and steam valves to lower platform level in order to operate the valves from remote position, shutting it down in case of leakage/breakage/bursting of the glass
- Bolts on boiler safety valve on exhaust line flexible sleeve loose and leaking
- Bilge / sludge pumping system arrangement enabled sludge from FO/LO drain tanks and OWS sludge tank to be pumped back into FO deep tank. This is not allowed as per MARPOL regulation. Section of the discharge pipe to FO deep tank to be removed and blanked both ends
- No OWS Sludge tank reading record found in ORB.
- The steering gear was operated in main and emergency modes but the pump failure alarm found not working
- No written procedures / instructions found in place to restart critical equipment (blackout procedure)
- Missing P&I Club mandatory spares of cylinder head, liner and piston
- No written procedures / instructions found / provided to control the change from residual fuel to low-sulphur fuels
- UMS Alarms for high pressure (HP) fuel line leakage not working
- Upon examining the boilers under operating conditions; alarms for starboard and / or port boiler flame failure, high water level, low water level and low-low level alarms and trips found not working

ADDITIONALLY FOR TANKERS

- Significant number of ports and / or doors open during cargo operations
- The pump room ventilation found either not in operation or being operated incorrectly (e.g. venting into instead of exhausting from the bottom of the pump room)
- Disabling the ship while alongside without permission from the terminal or port authority (e.g. over hauling engine)
- Significant leaks at pipelines, couplings, pumps found in pump room
- Spectacle blanks of COW lines in way of tank cleaning heater not in place. Major non-conformity especially since the vessel had carried out COW in that port
- Cargo sea and overboard valves should be suitably lashed (with chains) or blanked off prior to oil transfer operation but was not done so
- Emergency Bilge Pumping arrangement - spindle of the suction valve (located on the deck near the entrance of the pump room at deck level) found rusted / wasted
- IG gas main non-return valve not operational or spindle heavily corroded
- The deck water seal in poor condition or empty. (Deck water seal is the main safeguard against the reverse flow of gases from the distribution system to the IG plant)
- The deck water seal sight glass found opaque and low level sensor mounting, fill pipe and drain pipe found to be wasted
- Pump Room bilge alarm found not functioning when tested by lifting the float device
- Temporary cooling measures being utilised on cargo and ballast pumps in the pump room (e.g. use of fire hoses to the pumps casing to help cool it down and prevent over heating)
- Evidence of the use of cigarette lighters as opposed to safety matches and / or smoking in non-designated smoking areas
- Electrical equipment with rating 'Ex d' e.g. pump room / battery room light fittings found cracked and without protective guard arrangement. ('Ex d' rating means Flameproof / Explosion Proof / Gas-Tight enclosure)
- Lifebuoy lights on weather deck non suitable for use in the hazardous zone (not intrinsically safe - should be marked 'Ex ia')
- Scupper plugs found not sealing properly and plastic cling wrap being used to maintain an effective seal. Major non-compliance
- Span gas bottles for calibrating multi-gas meters not having imprinted dates and neither is a certificate available to verify expiration date of the span gas
- Incorrect IG Pressure Setting: Each cargo and slop Tank found to be fitted with an individual PV Valve operating at +1600 mmWG / -350 mmWG. In addition, each cargo and slop tank was fitted with an individual pressure sensor with readings and alarms located in the CCR. At the time of inspection, the alarm set points for the low pressure sensor was noted to be at the same setting as the operating pressure of -350 mmWG. (This was rectified immediately and set it to +100 mmWG)
- Failure to demonstrate proper use of the gas detection equipment
- Welded patches found on the inert gas scrubber supply line
- No records found of pump room sea-chest valve integrity testing
- Ventilation flap adjacent to the IG scrubber badly corroded and substantially missing, leaving only the flap's spindle

Special thanks to Captain Tao Wang & Capt. Carlo Rolla, our associates in Shanghai and Rio Office respectively for contributing to this article

The primary function of AVA Marine as a marine consultancy firm is 'Loss Prevention' by focusing on best practices to help avert those claims that are considered avoidable and by playing an active role in keeping the shipping industry informed.

The bulletins will be circulated to the Marine Industry and P&I Clubs so that its Members are kept informed. We respect your privacy and in case you do not wish to receive these bulletins then please let us know and your name shall be removed from the mailing list promptly. Contact for AVA Marine:

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