

IAMSA GROUP INC.

(IAG)



Technical Department

From: Technical Department
Iamsa Group Inc.
Appraisal Department

To: Acting Marine Surveyors, Regional Agents

Date: 20th March 2018

Language: English

Scope: Pre-purchase Condition Survey Procedure

Purpose: To establish functional criteria for development of Pre-purchase & Condition Survey.

References:

- Marine Circular MC 003 – Pre- purchase condition survey
- Marine Circular MC 013 – Safety inspection in all type of vessels
- Marine Circular MC 021 - Code of Conduct for Surveyor to Iamsa Group Inc.
- Marine Circular MC 023 – Aide Memoir for Marine Surveyors
- Marine Circular MC 027 - Requirements for performing Condition Survey Inspection

INTRODUCTION

A Marine Organization involved in classification, statutory surveys, insurance requirements, cargo insurance, etc. has the role and the compromise to develop rules and regulations according these activities. In spite of the ship's owner is who pay for our services and is our first customer it is impossible for us to ignore our principals regulations as well as the international law and mandatory regulations in force when we conduct a survey.

Condition surveys will be performed by using annexed check list.

SURVEYORS

IAMSA GROUP INC. requires of all their surveyors a full commitment with national and international regulations and with our internal procedures as well.

As a part of his preparation, a surveyor should be interested to develop a permanent improvement on his carrier, be familiar with law and regulations in force, to participate on training programs in order to perform his duties in a qualified, competent and trustworthy manner.

Additionally, we expect from our surveyors the following virtues: honesty, courtesy, impartiality, sound judgement, knowledge. The official working language of the Organization is English and the organization expects that all its surveyors have a good command over spoken and written English.

To perform a Condition Survey, the surveyor will be appointed by the Form IAG 404 Purchase Order in which will be instructed about the services due to render.

EQUIPMENT AND CHECK LIST

All Pre-Purchase Inspections and Conditions Surveys (PPI) are covering with a Digital Camera (minimum 13 mpx), and extra memory.

Pre-purchase check list inspection form is referred in our MC-027 Requirements for performing Condition Survey Inspection and must be used for our surveyor to produce the assessment according the type of ship to be inspected: Bulk carriers, Containers ships, Refrigerated ships, Tankers, etc. and Client's requirements: in some cases, customer request to survey special items

REPORTING OF SURVEYS

Preliminary Report of Survey.

On completion of survey, the Surveyor must issue the Preliminary Report of Survey (electronic data) indicating details of all the survey carried out and details of any remarks. This report includes a minimum of 30 relevant pictures of an specific area, for instance, tanks, or cranes, or engine auxiliary machineries, among others. Surveyor will contact supervisor to process the pictures and findings.

Final Report

Surveys shall be reported within the time frame stipulated and shall contain the full information which has been ascertained by the surveyor as surveyors statement. All other information based on unauthenticated sources such as statements by the Master, log book entries, etc. shall be qualified as such; e.g. “Master of the vessel stated that”.

The final report statement will include also the total pictures, usually 200 to 300 photos about. The final report is processed in electronic format and upload into the cloud.

Following final reports can be used as samples

http://www.iamssalatam.com/models/orient_tiger_24_oct_2017.pdf

<http://www.iamssalatam.com/models/orient-transit.pdf>

PROCEDURE FOR INSPECTION (What to look for)

Deck inspection

Hull condition assessment will cover weather decks, super structure decks and deck houses – visual examination for wastage or holes, for grooving of weld seams and butts, for distortion or buckling (Particularly midship region), for indentations (due to cargo operations etc.) and for cracks.

Anchoring and mooring – visual examination of lowering, and hoisting of anchors and efficiency of windlass or capstan brakes while anchor is freely falling. The wear down of anchor windlass chain lifter should be checked to ensure that the anchor chain does not jump clear when chain is let go. Examine visible parts of anchors and chains. Verify condition of mooring lines and arrangements.

Structural fire protection – Visual inspection of internal insulation and fire partitions for various types of spaces and verify the condition of vent / air ducts, fire flaps and covers.

Fire Doors – Verify local and remote operation and fire integrity.

Watertight bulk heads and internal structure – Visually examine condition as far as practicable depending upon accessibility especially within engine rooms, pump rooms, fore castle spaces etc.

Watertight doors and remote controls – Verify local and remote operation of watertight doors, indicators in bridge, etc.

Enhanced survey program (ESP) requirements for Oil Tankers, Chemical Tankers and Bulk carriers – Additional survey requirements are applicable for the hull structure within the length of the cargo tanks or cargo holds.

Ballast tanks identified as uncoated or having soft or poor coating during previous intermediate or special survey until the coating condition is made good - Entire tank shall be examined to ascertain that the structure remains in a good or fair condition and the watertight integrity is maintained.

Structural aspects of cargo system – Examine for wastage, buckling, cracks of lashing material, pad eyes of fittings, guides, shoes, cell guides, etc. as described in the cargo securing manual. Examine cargo piping.

Main and Auxiliary Machinery

The following procedures are intended for general guidance only and should not be interpreted as indicating the full and exact extent of any survey.

Surveyors must ensure that the person responsible for opening up machinery items are made aware as early as possible of the extent of opening up required. The precise amount of opening for each item depends to some extent on details of construction, reported faults or obvious signs of defects. Surveyors must therefore use their experience, judgment and any knowledge of the past history of the installation or similar installations when deciding how extensive the opening up should be.

The following items are to be checked

(a) Whether any components have been rendered inoperative or removed and if any new/replacement equipment has been placed on board, whether they are of correct/approved type, size, capacity etc.

- (b) Whether any leaks show up on pipelines, above or below the floor plates or on machines or valves and fittings.
- (c) The tightness of the inner stern tube seal.
- (d) The condition of the insulation on pipelines, heaters, boilers, exhaust ducts, etc.
- (e) The general state of maintenance of indicating and monitoring devices (pressure gauges, volt & ampere meters, thermometers, governors etc) and safety valves.
- (f) Whether beside the bilge alarm test other monitoring devices need testing.
- (g) Whether there is free access to, and lighting in emergency exits.
- (h) Completeness and state of maintenance of spare parts.
- (i) Operation of various remote shutdown & closing arrangements (oil fuel pumps, oil fuel tank valves, ventilation fans etc) and testing various alarms & controls
- (j) Examination of bilge pumping arrangements from various compartments including holds and operation of emergency bilge suction from machinery space.

Thorough examinations and/or tests (if allowed) may be demanded in cases of doubt where this seems necessary of all essential machinery (pumps, compressors, auxiliary engines, ventilation fans, must be operated to the extent possible and confirmed operating satisfactorily.

Logbook entries (engine room & Chief Engineer's) should be examined to ensure that machinery has been operating satisfactorily (recorded parameters of main & auxiliary engines etc.) in the period since the last surveys and defects / deficiencies noted have been rectified.

Main and emergency steering gear

The state of maintenance of the entire installation including controls and fittings is checked by external examination. A special lookout is to be kept for leaks in the hydraulic system (pipelines, packing, cover seals), mechanical damage to piston rods of hydraulic cylinders and high pressure hoses, grease lubrication of ball and socket joints of hydraulic cylinders and rudder stocks, rudder stock seals and the condition of limit switches.

Steam Boilers

Steam boilers are to be subject to external inspection to ensure no water or stem leakages, correct operation of pressure gauges/water level indicators etc.

Electrical Installation

Carry out external examination of generators for main and emergency power supply, electric motors, main and emergency switchboard, switch cabinets, the run of cables, explosion-proof equipment. The state of maintenance is checked by external inspection and if necessary by following trials:

Trial of emergency generator with connection to mains.

Check of parallel running of generators.

Check of main switches with protective and safety devices, such as:

Switching off unimportant consumers when the rated current is reached.

Reverse power protection

Under voltage/under frequency protection - Check of alarms by random sampling. *(state in your report, if the testing process is not allowed)*

Fire Protection and Safety Equipment

The check of the equipment is effected by external survey and trials. Any of the defects discovered impair the safe operation of the equipment, must be reported and supported by picture evidence. All emergency equipment must be in satisfactory condition.

In addition, the following measurements are to be confirmed from up-to-date reports:

(State in your report if vessel deny providing reports)

Crank web deflection of main engine(s)

Crank shaft deflection of auxiliary engines (where relevant) –

Axial thrust bearing clearance of shafting

Insulation resistance of the generators and operationally important electric motors including cabling and switchgear.

Thickness measures from the last dry-dock (hull, holds, plates, frames, chains, etc.)

Cooling water passages to be examined for fouling and corrosion.

REMARKS: Auxiliary engines are generally examined in the same manner as main engines.

Pumping and piping arrangements

At the Chief engineer's discretion essential pumps should be opened out sufficiently to enable the Surveyor to establish the condition of cylinders, plungers, casings, impellers, valves etc. All seawater pumps must be opened up and surveyed. For other pumps, at least one pump of

each type (fuel oil, lube oil, fresh water etc) should be opened up for survey. Lubricating oil, gear oil and fuel pumps as a rule suffer little from wear.

Compressed Air System

Compressors should be opened up and the working parts examined. It is important to ensure that the tubes or coils of air coolers are in good condition and when considered necessary a hydraulic test to 1.25 times compressed air discharge pressure in the coils/tubes should be applied. Coils may be found locally thinned due to rubbing against supports or casings or there may be internal erosion at bends, which may be detected by slight hammering.

Specific instructions according the type of the vessel will be produced case by case.

ANNEX
Pre-purchase & Condition Survey Check List

Construction & Condition of Ship`s Hull		
<i>Please include at least 100 photos to show external hull, piping, surrounding areas, rudder, etc.</i>		
Item N°	Questionnaire	Your comments
01	Describe the type of hull, with details of bulkhead and framing	
02	How many bulkheads?	
03	How do they look like?	
04	Which materials have been used to construct the hull?	
05	Which materials have been used to construct piping system?	
06	Is high tensile steel used in the construction of the hull?	
07	In case your answer is yes, please advise grade and location	
08	Is the vessel ICE STRENGTHENED?	
09	Are cargo holds strengthened for heavy cargo? <i>(see class certificate) (IF YES, listed below)</i>	
10	Tell about the condition of the external shell plating <i>(include pictures)</i>	
11	Tell about the condition of the main, forecastle and poop deck plating <i>(include pictures)</i>	
12	Tell about crossnet deck condition <i>(include pictures, for all crossnet areas)</i>	
13	Check the condition of shell <i>(percentage of pitting)</i>	
14	Check the condition of painting. <i>(report blisters)</i>	
15	Tell about condition of handrails, bulwarks, deck/accommodation ladders, pilot ladder <i>(include pictures)</i>	
16	Tell about the condition of watertight openings, ports, skylights and scuttles; check the rubber <i>(include pictures)</i>	
17	Tell about the condition of ventilators, sounding pipes and filling pipes <i>(include pictures)</i>	
18	Indicate percentage of hull and deck plating not coated <i>(provide pictures)</i> Port shell plating _____	

	Starboard shell plating _____ Main deck _____ Forecastle deck _____ Poop deck _____	
19	Estimate the average of depth and frequency of pitting for Shell Plating Deck Plating	
20	Did you see any sharp indent on the shell or deck plating? <i>Please specify the location of damage and its extent</i>	
21	Is there any buckling on the shell or deck plating? <i>Please specify the location of damage and its extent.</i>	
22	Tell which areas did you localize corrosion, and include pictures. <i>(add more sheets if necessary)</i>	
23	Describe the overall hull condition	
24	Describe the deck equipment including pictures and details of their condition, specially bases, rusted areas, sized conditions of mushrooms, openings, etc. <i>(add more sheets if necessary)</i>	
25	Provide other remarks that could be important to mention	
Hull and machinery maintenance <i>Please include at least 150 photos to show general condition of machineries, bilges, piping, electrical cables, etc.</i>		
Item N°	Questionnaire	Your comments
26	Request the Master and Chief Engineer to see the maintenance system and check if it is up to date. Request copies of records regarding running details, clearance of main engine and auxiliary engine, dry-dock reports, etc.	
27	Is there a planned maintenance system which records overhaul dates and records of completed works?	
28	In case your answer is NO, then describe maintenance procedures:	
29	Include a list of spares parts	
30	What is the procedure for acquisition of spares parts?	

31	Request a list of engines and auxiliary engines and verify maintenance. (add pictures)	
<p>Ballast tanks condition</p> <ul style="list-style-type: none"> Please include at least 40 photos to show general condition of each tank, framing, coating condition, anodes, plating condition. Each ballast tank that you inspect must be provided with pictures – Remember to follow the procedures stated on MC 030, related To Enclosed Space Entry. You should inspect at least: Fore peak Tank; 2 Topside (St & Port); Afterpeak tank; 2 Bottom tanks. Reproduce pictures of all components as framing, any doubled structure, anodes, wastage of structural part, web ring, etc. <p>Include a plan of Ballast Tank System and show which tanks have been inspected by you (if possible)</p>		
Item N°	Questionnaire	Your comments
32	Does the vessel a regular inspection program for the ballast tanks?(explain)	
33	Does the ship an approved Ballast Water management Plan?	
34	Do Classification records indicates ballast tanks have significant corrosion?	
35	Condition of coating (see class records)	
36	Are segregated ballast tanks coated?	
37	Are anodes fitted?	
38	What type of anodes?	
39	Are cargo tanks used for ballast?	
40	Are they coated?	
41	If so, which type of coating?	
42	Are anodes fitted?	
43	What type of anodes?	
44	Is there an approved cargo/ballast tank manual on board?	
<p>Cargo holds (General Cargo Vessels & Bulk Carriers)</p> <ul style="list-style-type: none"> Reproduce pictures of all components as framing, any doubled, ladders, coating failure, blasting percentage, etc. Include a plan of holds and show which areas have been inspected by you. Provide pictures of each hold, follow the Inspection Form provided. 		
Item N°	Questionnaire	Your comments
45	Number of holds	
46	Number of tween decks	
47	How many bulkheads?	
48	Check condition of collision of each bulkhead to see if double	

49	Check condition of each collision bulkhead to see if is leaking	
Reefer holds (Reefer Cargo Ships) <ul style="list-style-type: none"> • Reproduce pictures of all components as framing, any doubled, ladders, coating failure, blasting percentage, etc. • Include a plan of holds and show which areas have been inspected by you. 		
Item N°	Questionnaire	Your comments
50	Number of holds	
51	Number of tween decks	
52	Number of lockers	
53	Condition of each item	
Containers holds (Containers vessels) <ul style="list-style-type: none"> • Reproduce pictures of all components as framing, any doubled, ladders, coating failure, blasting percentage, etc 		
Item N°	Questionnaire	Your comments
54	Number of holds	
55	Number of Hatches	
56	Number of tiers	
57	Condition of each item	
58	Condition of cells	
Cranes condition (All type of vessel equipped with cranes) <ul style="list-style-type: none"> • Reproduce pictures of each crane and component. Look for hydraulic leaking 		
Item N°	Questionnaire	Your comments
59	How many cranes?	
60	Maker	
61	Shave limit condition of each crane	
62	Condition of pedestal	
63	Condition of slewing gear box	
64	Condition of motor	
65	Condition of winch	
66	Condition of derrick boom positioned over the hatch	
67	Condition of cargo runners (or married falls),	