



. - GL Reg #

This Survey Program Print-Out indicates the survey items to be inspected/surveyed for completion of the Surveys named in the List of Surveys as generated by the TRON. The Print-Out is used as guideline and for personal purpose and is not part of the official survey documentation. The final results have to be indicated in the TRON following the formal requirements stipulated by Germanischer Lloyd.

1. Basic Surveys

List of Surveys:

1.1 CLASS MACHINERY ANNUAL

List of Survey Items:

CHA 04.01.01.03	The Class Certificate has been endorsed for the corresponding periodical annual/intermediate survey (only after complete survey).		
CHA 06.03	Evidence of possible safety management failures (conditions of class and/or statutory deficiencies), are not observed in areas of the ship other than those covered by the specific survey. In cases of evidence according to ITS part 1, chap. 1, sec. 2A.2, such possible failures have been followed up and reported by fax (F133 E, may be used, with SMC attached if not issued by GL) to Head Office, ext. -1702.		
CHA 11.01	Validity of current class, statutory, exemption certificates, and other records have been checked and found in order. Any deviation is reported hereafter.		
CHA 11.07.03	Machinery items have been presented for survey in accordance with the continuous survey scheme, approved by GL. There are no overdue items. In case of overdue items, a condition of class for max. 3 months from due date was given. State the overdue items:		
CHA 12.05	Modifications made in the structural fire protection, if any, have been approved and changes are reflected in the appropriate drawings.		
CHA 81.01.02	Survey of additional items for Survey of Chemical Tankers in accordance with sect. 4, C.2/C.3 of the Rules for Classification and Surveys has been carried out.		
CHA 81.02.02	Survey on account of the CoF according to the IBC Code has been performed with satisfactory results (additional requirements for chemiker tankers, former F111a).		
CHA 81.03	Periodical Survey according to MARPOL 73/78, Annex II has been carried out (former F335).		

CHA 82.01.02	Survey of additional items for Survey of Gas Carriers in accordance with sect. 4, D.2/D.3 of the Rules for Classification and Surveys has been carried out.		
CHA 82.02.02	Survey on account of the CoF according to the IGC Code has been performed with satisfactory results (additional requirements for gas tankers, former F111b).		
CMA 06.04.06	MFB - The monitoring equipment in the machinery space meets the requirements applicable to non-AUT ships.		
CMA 06.04.07	MFB - Additional monitoring equipment on the bridge: indicators with acoustic group-alarm or individual visual alarms plus acoustic group-alarm for the following systems:		
	yes	no	
	lube oil pressure - main engine - min.		
	lube oil pressure - gearing - min.		
	cooling water pressure - main engine - min.		
	cooling water temperature - max.		
	starting-air pressure - min.		
	control air pressure - min.		
	level in ER bilges - max.		
CMA 06.04.08	MFB - The fire protection equipment is in accordance with the applicable to non-AUT ships		
CMA 09.01	According to the operating records on board, the automatic control for lube oil, cooling water and fuel oil temperature works satisfactory.		
CMA 09.51	Starting and stopping of the starting air and control air compressors results automatically depending to the pressure in the air receivers.		
CMA 11.12	Machinery alarms are indicated audibly and visually in the machinery spaces, on the bridge, in the engineer's accommodations and public spaces (group alarms sufficient).		
CMA 11.17	Alarm of min. pressure of lubricating oil to main engine(s), to camshaft / crosshead, to gear was checked and found in order		
CMA 11.30	Alarm of main engine(s) min. cylinder cooling water pressure (HT), piston coolant min. pressure, min. fuel oil pressure to injection pumps was checked and found in order.		
CMA 13.01	Alarms / faults required to be registered were recorded by the registration device.		
CMA 13.01.01.01	A general examination of the propulsion system, auxiliary machinery, boilers, steam-, hydraulic-, pneumatic- and other systems and their associated fittings was carried out and found satisfactory.		
CMA 13.01.01.02	A general examination of the auxiliary machinery, steam-, hydraulic-, pneumatic- and other systems and their associated fittings was carried out and found satisfactory.		

CMA 13.01.01.03	Retroactive requirements for existing ships regarding fuel oil arrangements according to 1994 Amendments to SOLAS II-2 / 15.2.9 - 15.2.12 are complied with. (Circular 16a/03)		
CMA 13.01.01.04	New installation of materials containing asbestos, SOLAS 74/00 Ch.II-1/Reg3-5. Master / chief engineer officer confirmed, that materials used for the structure, machinery, electrical installations and equipment are free of asbestos, except for the cases stipulated in the regulation.		
CMA 13.01.02	The escape routes and means of escape from machinery spaces, control rooms, accommodation and other spaces are in good condition and free of obstructions.		
CMA 13.01.03	All precautions provided against shock, fire, explosion and other hazards of electrical origin are in satisfactory condition.		
CMA 13.01.04	The engineer's alarm is clearly audible in the engineer's accommodation.		
CMA 13.01.05	Expansion joints in the sea water system have been visually examined.		
CMA 13.01.06	Arrangement and storage of gaseous fuel for domestic purposes have been examined.		
CMA 13.01.07	The machinery space ventilation is operating satisfactorily.		
CMA 13.01.08	The measures to prevent noise in machinery spaces are effective.		
CMA 13.01.09	The bilge pumping system, bilge wells including operation of pumps, remote reach rods and level alarms for each watertight compartment have been examined as far as practicable and found satisfactory (SOLAS 74/88, reg. II-1/21).		
CMA 13.01.10	An incinerator is on board and was surveyed for condition, safe operation and safety functions.		
CMA 13.02.01	All means of communication between the navigation bridge, machinery control room, steering gear compartment and alternative steering positions have been tested, including the engine room telegraph. The means of indicating the angular position of the rudder are operating satisfactorily.		
CMA 13.02.02	The electrical machinery, main and emergency sources of electrical power, the switchgear and other electrical equipment have been examined, operation tested and found in order.		
CMA 13.02.03	Normal operation of the propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative.		
CMA 13.02.04	Machinery can be brought into operation from the dead ship condition without external aid.		
CMA 13.02.05	The means for operation of main and auxiliary machinery essential for propulsion and safety of the ship including, when applicable, the means of the propulsion machinery's remote controls (from navigation bridge and machinery control room) were examined and found in order.		

CMA 13.02.06	The arrangements for periodically unattended machinery spaces have been examined. Alarms, automatic and shutdown functions were tested at random.		
CMA 13.03.01	A visual examination of boilers including appurtenances, safety devices, foundations, controls, relieving gear, high pressure and steam escape piping, insulation and gauges was carried out and found in order. Date of last boiler survey:		
No.	Date of external survey	Date of internal survey	
CMA 13.03.03	An external examination of pressure vessels including appurtenances and safety devices was carried out and found in order. Date of last pressure vessel survey:		
No.	Date of external survey	Date of internal survey	
CMA 13.04.01	Main and auxiliary steering arrangements including associated equipment and control systems have been tested and found in order.		
CMA 13.04.02	The means of relaying heading information and, when appropriate, supply visual compass readings to the emergency steering position are satisfactory.		
CMA 13.04.03	The alarms required for hydraulic power-operated, electric or electro-hydraulic steering gear have been tested; the re-charging arrangements, if any, for hydraulic power-operated steering gears are maintained satisfactorily.		
CMA 13.05.04	Manual and automatic fire doors have been examined, function tested and found in order.		
CMA 13.05.05	The fire fighting and smoke detection system and equipment have been checked and found properly maintained		
Last test of fixed fire fighting system date	Last test of fire extinguishers date	Remarks	
CMA 14.01.01	Cargo tank openings including gaskets, covers, coamings, pressure/vacuum valves and flame screens have been examined, and found satisfactory.		
CMA 14.01.02	Devices to prevent the passage of flame on vents to all bunker, oily-ballast, oily-slop tanks and void spaces have been examined as far as practicable, and found satisfactory.		
CMA 14.01.03	Cargo, crude oil washing, bunker, ballast and vent piping systems, including vent masts and headers were inspected and are in satisfactory condition		
CMA 14.02.01	Potential sources of ignition in or near the cargo pump room have been eliminated, such as loose gear, excessive product in bilges, excessive vapours, combustible materials etc.		
CMA 14.02.02	Access ladders to cargo pump rooms are in good condition.		
CMA 14.02.03	All electrical equipment, including the emergency lighting, in the cargo pump room has been inspected and is in good condition		
CMA 14.02.04	All pump room bulkheads have been examined for absence of oil leakage or fractures and, in particular, the sealing arrangements of bulkhead penetrations		

CMA 14.02.05	The condition of all piping systems in cargo pump rooms has been examined externally and found in satisfactory condition		
CMA 14.02.06	An examination, as far as practicable, of cargo, bilge, ballast, and stripping pumps for excessive gland seal leakage, operation of electrical and mechanical remote operating and shutdown devices, pump room bilge system and pump foundations has been carried out with satisfactory result		
CMA 14.02.07	The pump room ventilation system including dampers is operational, ducting intact and screens clean		
CMA 14.02.08	Pressure gauges installed on cargo discharge lines and level indicator systems are operable as far as could be seen		
CMA 14.03.01	The piping and cut-off valves of cargo tank and cargo pump room fixed fire-fighting system have been examined externally and found in order		
CMA 14.03.02	Deck foam and deck sprinkler systems have been checked and are in sound operating condition		
CMA 14.03.03	When appropriate, the arrangements to regain steering capability within 45 s in the event of the prescribed single failure are satisfactory maintained.		
CMA 14.04.01	The prescribed periodical surveys for the inert gas system in tankers have been conducted within the last three month		
CMA 14.04.01.01	Date of last test of inert gas system		
CMA 14.04.02	All piping and components have been inspected externally and are free of signs of corrosion or gas/effluent leakage (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.03	Both inert gas blowers are checked and operational (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.04	The scrubber room ventilation system was checked and found operational (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.05	The deck water seal has been checked for automatic filling and draining and for absence of water carry-over (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.06	The non-return valve is without obstruction (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.07	All remotely operated or automatically controlled valves and, in particular, the flue gas isolating valves were checked and are in good working condition (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.08	The interlocking feature of soot blowers has been tested and is in order (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		

CMA 14.04.09	The gas pressure regulating valve closes automatically when the inert gas blowers are secured (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
CMA 14.04.10	The following alarms and safety devices of the inert gas system were checked, as far as practicable, using simulated conditions where necessary; indicate if tested (Applicable only to vessels not surveyed for class notation "INERT" within the last three months).		
	Simulated	Tested	
High oxygen content of gas in the inert gas main			
Low gas pressure in the inert gas main			
Low pressure in the supply of the deck water seal			
High temperature of gas in the inert gas main			
Low water pressure to the scrubber			
Accuracy of portable and fixed oxygen measuring equipment by means of calibration gas			
CMA 22.01	According to the reports and documents the automatic controls have worked satisfactorily.		
CMA 23.20	The faultless operation of the remote control system was proved by check / verification of manoeuvre PRINT OUTS resp. log book entries for the manoeuvre: Half Ahead -> Stop, Stop -> Dead Slow Astern, Dead Slow Astern -> Dead Slow Ahead, Dead Slow Ahead -> Half Astern, Half Astern -> Stop, Stop -> Half Ahead		
CMA 23.30	The emergency stopping devices of the main propulsion plant were checked successfully from the bridge.		
CMA 23.31	The emergency stopping devices of the main propulsion plant were checked successfully from the engine control room.		
CMA 23.40	Following a blackout the electrical supply was restored by standby generator set being started and connected automatically.		
CMA 23.42	Following a blackout the electrical supply was restored by standby generator set being started from the engine control room.		
CMA 23.43	In case of power failure an automatic switching over to battery supply is guaranteed for the alarm, for the safety system and for the electronic speed governor.		
CMA 23.46	Non-essential consumers are disconnected automatically within 5 sec., if the current arrives and remains at the rated value for the generator(s).		
CMA 23.50	The remote start of the main fire pump from the bridge was checked and found in order.		
CMA 23.51	The stand-by function of essential machinery were tested successfully.		

CMA 23.60	Main engine(s) shutdowns/slowdowns were successfully tested/simulated as stated by entries in the following table:		
	Safety Function	Comment	
Overspeed			
Lub. oil pressure to main engine min.			
Lub. oil pressure to camshaft min.			
Lub. oil pressure reduction gear min.			
°			
Lub. oil temp. to engine max.			
Thrust bearing temp. max.			
Temp. of main engine bearings max.			
Oil mist in crankcase max.			
Failure of cylinder lubrication			
Jacket cool. water pressure min.			
Jacket cooling water outlet temp. max.			
Piston coolant pressure min.			
Piston coolant outlet temp. max.			
Piston coolant flow min.			
Fire in scavenging air duct			
Excessive deviation of exhaust gas temp.			
CMA 24.01	Notation AUT to the character of class is confirmed.		
CMA 99.01	Additional national requirements for Norway (NIS). Acetylene / Oxygen Gas Welding Installations: Installation Certificate issued by installer was available on board. State validity of certificate.		
DA 02.01	Cargo tanks are equipped with the following gauging devices. The gauging devices have been examined and found in operable condition.		
Tk no. / Pos.	Open device (Ullage opening)	Restricted device (Sounding pipe)	Closed device (Float type, radar, etc.)
DA 03.01	The remote operation of the cargo pump room bilge system was checked and found in order.		
DA 08.01	The electrical equipment in dangerous spaces and zones, including cables and their supports has been visually examined, particularly in respect of explosion protection and is in good condition and properly maintained.		

EA 07.01	Emergency control / special arrangements in machinery spaces, accommodation spaces and cargo spaces (SOLAS II-2/5.2, 7.9.3, 8.3, 9.5). Means for the stopping of ventilation fans, boiler forced and induced draft fans, oil fuel units, oil fuel transfer pumps and oil fuel and lubricating oil tank valves are provided and operating satisfactorily.		
EA 07.02	Emergency control / special arrangements in machinery spaces, accommodation or spaces and cargo spaces (SOLAS II-2/5.2, 7.9.3, 8.3, 9.5). Means for closing ventilators, funnel openings, skylights, doorways and tunnel doors from outside the space(s) concerned provided and tested as far as practicable with satisfactory result.		
PMA 01.02	PMS: The approval certificate of the Planned Maintenance System is valid		
PMA 01.04	PMS: The representation of the Planned Maintenance System showed satisfactory result.		
PMA 01.09	PMS: The Chief Engineer is familiar with the Planned Maintenance System		
PMA 01.10	PMS: The Chief Engineer hold the valid licence issued by the respective authorities		
PMA 01.11	PMS: All Planned Maintenance System related items have been carried out at their due dates		
PMA 01.12	PMS: The performance and maintenance records reveal no malfunction or break-downs of the machinery since previous survey		
PMA 01.13	PMS: A general examination of the Planned Maintenance System items has been carried out. The following machinery parts are still subject to surveys by the class surveyor and may not surveyed by the Chief Engineer: Main steam boilers and steam turbines, auxiliary steam boilers and steam turbines, apparatus under pressure, main drive gears, steering gear, propeller, propeller shafting including bearings, surveys for class notations (like AUT, INERT, etc.).		
SBExt 12.40	Remote control failure alarm for the main propulsion plant, alarm of failure of machinery alarm system, safety system failure alarm was checked and found in order		

Glossary

Results:

0: not in order 1: ok 2: not applicable for this ship 3: part held

Codes:

CHA: Class Hull Annual

CMA: Class Machinery Annual

DA: Certificate of Fitness (Chemical Tanker) Annual

EA: Safety Equipment Annual

SBExt: Steam Boiler (Class) External