

Concentrated Inspection Campaign on Emergency Systems and Procedures

Presented by:

Flag State Control Department
Shipping Division



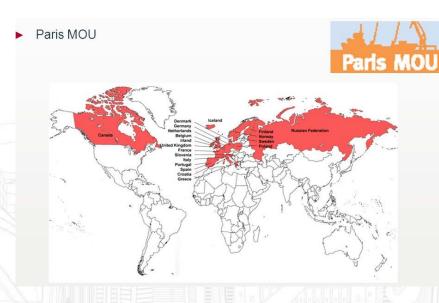
Introduction



Paris MoU



 The Maritime Authorities of the Tokyo and the Paris Memoranda of Understanding (MoU) on Port State Control launched a joint Concentrated Inspection Campaign (CIC) on Emergency Systems and Procedures







Origins of CIC Questionnaire

The questions in the Concentrated Inspection Questionnaire were selected in order of the number of deficiencies (%) and the number of detainable deficiencies (Code 30) in the last three years by analyzing the number of deficiencies related to the emergency system areas (ratios) during the Asia- Pacific and European-North Atlantic ports.





Objectives of the CIC

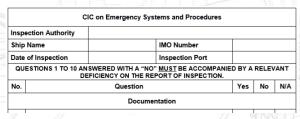
The Concentrated Inspection Campaign on emergency systems ensures:

- 1) that ships are capable of responding appropriately and promptly to emergency situations so that it prevents casualties and ship damage that are caused by marine accidents in the oceans, and maintains a clean marine environment.
- 2) that the emergency systems installed on board are operated properly and managed efficiently in any emergency situations.
- 3) that masters and all seafarers of the ship understand their assigned roles and duties in case of emergency and raise their familiarity with the situations so that they can act immediately when circumstances arise.
- 4) that a solid foundation on which the emergency management systems of ships are maintained would be laid.



Scope of Inspection

- The questions selected for this CIC are classified into three parts: Documentation, Operation of Emergency System, and Familiarization, and starting from document inspection, the inspection of items is organized from the Bridge, Deck, Engine Room and so on, taking into account the ordinary inspection movement of the Port State Control Officer (PSCO).
- Ensures emergency equipment systems (such as emergency fire pumps, emergency generators, and steering gear) are maintained and operated at proper intervals. The familiarity of the ship's officer and crew with the equipment operation and emergency systems will be evaluated.
- The Concentrated Inspection Campaign will be carried out in addition to the regular scope of Port State Control Inspection.
- Duration of CIC
 - 3 months from 1 Sep 2019 to 30 Nov 2019





No.	Question	Yes	No	N/A	
	Documentation				
1	Is the damage control plan readily available on board?				

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

 Damage control plans and booklets are updated and available onboard.

Requirements:

- 1. Dry cargo ship, which constructed on or after 1/2/1992. Before 1/1/2009, the plan permanently exhibited and Booklet shall be made available to the officers of the ship.
- 2. Every ship, which constructed on or after 1/1/2009, the plan shall be permanently exhibited or readily available on the navigation bridge and Booklet shall be made available to the officers of the ship.

Nature of Defect:

Missing, Incomplete, Not updated, Not readable, Wrong information.

Potential Action Taken:

Code 17, Code 16 (2 weeks)







No.	Question	Yes	No	N/A			
	Operating of Emergency system						
2*	2' Is the public address system capable of broadcasting emergency announcements?		0				

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- Public address system provides a loudspeaker installation enabling the broadcast of messages into accommodation spaces and muster stations.
- The PA system is tested in good working order.

Requirements:

- 1. Applicable to ships constructed on or after 1/7/1986.
- 2. Shall allow for the broadcast of messages from the navigation bridge and such other places on board the ship as the Administration deems necessary.
- 3. Emergency messages are audible in the residence area and assembly stations.
- 4. Installed in accordance with acoustically marginal condition and not require any action from the addressee.
- 5. It shall be protected against unauthorized use.

Nature of Defect:

· Missing, Not as required, Inoperative, Damaged

Potential Action Taken:

· Code 17, Code 30 (Detention)







No.	Question	Yes	No	N/A	
	Operating of Emergency system				
3*	3* For ships with water level detectors installed, is the system and alarm arrangements operational?		0		

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

1. Operational test of sensors and the water ingress alarm system for the water level detector.

*Note: Physical alarm test may be tested by PSCO whenever practicable but is difficult while cargo is being loaded.

Requirements:

- 1. System comprise sensors and indication devices that detect and warn a water ingress in cargo holds and other spaces.
- Water level detectors are installed on single hold cargo ships other than bulk carriers subject to 'SOLAS 2006 Amendments Chapter II-1 Regulation 25' or bulk carriers subject to 'SOLAS 2006 Amendments Chapter XII Regulation 12'.

Nature of Defect:

· Not as required, Damaged, Inoperative, Missing, Broken

Potential Action Taken:

- Code 17, Code 30 (Detention)









No.	Question	Yes	No	N/A			
	Operating of Emergency system						
4*	Is the steering gear system and its related emergency alarms operational?						

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- 1. One of the steering gear powers is connected to emergency source of electrical power (Emergency Switch Board) or an independent source of power located in the steering gear compartment during the inspection. (SOLAS Chapter II-1 Regulation 29.14)
- 2. The main and auxiliary steering gear power units restart automatically when power is restored after a shipboard power failure. (SOLAS Chapter II-1 Regulation 3.3)
- 3. In event of a power failure to any one of the steering power units, an audible and visual alarm is given on the navigation bridge.
- Hydraulic power-operated steering gear is provided with audible and visual alarms on the navigation bridge and in the machinery space in case of a low level of each hydraulic fluid reservoir. Low level alarm sensors (e.g. a float switch) and hydraulic locking alarm may be tested.
- POWER FAILURE

 CONTROL POWER FAILURE

 MOTOR OIL LEVEL LOCK FAILURE

 ALARM POWER FAILURE

 HYDRAULIC LOCK FAILURE

4. Crew is familiar with emergency steering arrangements.

Requirements:

 Applicable for ships constructed on or after 1/9/1984, complies with SOLAS (1981 Amendment, Chapter II-1, Regulation 29)

Nature of Defect:

· Not as required, Not properly maintained, Damaged, Inoperative, Not familiar with test procedure

Potential Action Taken:

Code 17, Code 30 (Detention)



No.	Question	Yes	No	N/A			
	Operating of Emergency system						
5	Does the muster list specify details in accordance with the requirements of SOLAS 1996-1998 Amendment, Chapter III, Regulation 37?		0				

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- 1. The muster lists are kept up to date by the ship's Master in accordance with the requirements of SOLAS 1996-1998 Amendments Chapter III Regulation 37.
- 2. That muster lists are displayed in conspicuous places throughout the ship including the navigation bridge, engine-room and crew accommodation areas.

Requirements:

- · According to SOLAS 1996-1998 Amendments Chapter III, Regulation 37:
- a) the muster list includes: details of the general emergency alarm and public address system and action to be taken by crew and passengers when alarm is sounded, - how the order to an abandon ship will be given, - which officers are assigned to ensure that life-saving and fire appliances are maintained in good condition and are ready for immediate use, - substitutes for key persons who may become disabled, taking into account that different emergencies may call for different action.
- b) the muster list shows the duties assigned to the different members of crew prescribed by SOLAS 1996-1998 Amendments Chapter III Reg. 37.3,
- c) the muster list is prepared before the ship proceeds to sea and updated if any change takes place in the crew which necessitates an alteration in the muster list,
- d) the format of the muster list on passenger ships is approved and the muster list shows the duties assigned to members of crew in relation to passengers in case of emergency prescribed by SOLAS 1996-1998 Amendments Chapter III Reg. 37.6,

Nature of Defect:

· Missing, Incomplete, Not updated, Not readable, Not approved, Not posted

Potential Action Taken:

Code 17







No.	Question	Yes	No	N/A		
	Operating of Emergency system					
6 Does the emergency source of electrical power supply its power correctly to essential equipment for safety in an emergency?			0			

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- 1. Emergency lighting is properly installed and in working order.
- 2. Individual emergency power consumers may be tested on emergency power supply to ensure emergency source of electrical power supplies its power properly to essential equipment,

Requirements:

1. The emergency source of electrical power supplies its power properly to essential equipment as below (TABLE 2)

Note* EDG Black out test may be requested to be conducted, when in doubt that the state of emergency power source is not in good working order.

< Essential equipment for safety in an emergency (TABLE 2) >

Type of Ship	Application	Reference
	For constructed before 1/9/1984, 5,000 GT and upwards: The general alarm Navigation lights if solely electric, and the daylight signaling lamp if operated the main source of electrical power	SOLAS 1960/ Chapter II/Reg.26, SOLAS 1974 Convention/ Chapter II-1/Reg.26
Cargo ships	For constructed on or after 1/9/1984 Navigation lights and other lights All internal communication equipment Shipborne navigational equipment as required by regulation V/19 Fire detection and fire alarm system Daylight signaling lamp, ship's whistle, manually operated call points, and all internal signals One of the fire pumps required by regulation II-2/4.3.1 and 4.3.3 if dependent upon the emergency generator for its source of power Steering gear where it is required to be so supplied by regulation II-1/29.14	SOLAS(as amended)/ Chapter II-1/ R43.2
	For constructed on or after 1/2/1995 The VHF radio installation; and, if applicable MF/HF radio installation, ship earth station (Additional requirement)	SOLAS 1988 Amend/ Chapter II-1/ R43.2.3





Nature of Defect:

 Missing, dirty, inoperative, inadequate, insufficient, not properly maintained, damaged, not as required

Potential Action Taken:

Code 17, Code 30 (Detention)

No.	Question	Yes	No	N/A		
	Operating of Emergency system					
6*	6 ^t Does the emergency source of electrical power supply its power correctly to essential equipment for safety in an emergency?		0			

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

Requirements (Cont'd):

2. All emergency lighting at every embarkation station and over the sides must be in good order among the emergency lighting (TABLE 3).

< Installation locations of Emergency lighting (TABLE 3) >

		•
Type of Ship	Application	Reference
	For constructed before 1/9/1984, 5,000 GT and upwards: - At every boat station on deck and oversides - In all alleyways, stairways and exits	SOLAS 1960/
Cargo ships	In the main machinery space and main generating set space On the navigation bridge and in the chartroom Less than 5,000 GT: At launching stations and stowage positions of	Chapter II/Reg.26, SOLAS 1974 Convention/ Chapter II-1/Reg.26
Cargo ships	survival craft For constructed on or after 1/9/1984 At every embarkation station and over the sides In all service and accommodation alleyways, stair ways and exits, personnel lift cars and trunks In the machinery spaces and main generating stations including their control position In all control stations, machinery control rooms, and at each main and emergency switchboard At all stowage positions for firemen's outfits At the steering gear At the fire pump, at the sprinkler pump, at the emergency bilge pump, at the starting positions of their motors	SOLAS(as amended)/ Chapter II-1/ R43.2.1 - 2.2
	For constructed on or after 1/7/1986 At every muster station (Additional requirement)	SOLAS 1983 Amend/ Chapter II-1/ R43.2.1 - 2.2
	For constructed on or after 1/7/2002 In all cargo pump-rooms of tankers (Additional requirement)	SOLAS 1999/2000 Amend/Chapter II-1/ R43.2.1 - 2.2



Nature of Defect:

 Missing, dirty, inoperative, inadequate, insufficient, not properly maintained, damaged, not as required

Potential Action Taken:

- Code 17, Code 30 (Detention)



No.	Question	Yes	No	N/A	
	Operating of Emergency system				
7a*	Where the emergency source of electrical power is a generator, is it in correct operational condition?		0		

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- 1. All means of starting for the emergency generator are operated properly.
- 2. The emergency generating system is in good condition (voltage, current, frequency).
- 3. The separate device to test the automatic starting is working normally. i.e. simulation test switch.

Requirements:

- 1. Emergency source of electrical power for emergency generator must be in good order as applicable (TABLE 4). cont'd
 - < Emergency source of electrical power for emergency generator (TABLE 4) >

Type of Ship	Application	Reference
	For constructed before 1/9/1984, 5,000 GT and upwards: · Driven by a suitable prime-mover with an independent fuel supply and with approved starting arrangements	SOLAS 1960/ Chapter II/Reg.26, SOLAS 1974 Convention/ Chapter II-1/Reg.26
Cargo ships	For constructed on or after 1/9/1984 Where the emergency source of electrical power is a generator, it shall be: Started and put on load automatically, as quickly as is safe and practically subject to a maximum of 45s, upon failure of the main source of electrical power supply unless a transitional source of power is provided. (Additional requirement) In auto start mode a single source of stored energy use to start must be protected to preclude its complete depletion, otherwise a second independent means of starting is to be provided. (Additional	SOLAS(as amended) /Chapter II-1/ R43.3.1



Nature of Defect:

 Not properly maintained, Damaged, Inoperative, Missing, Dirty, Inadequate, Insufficient, Not as required

Potential Action Taken:

- Code 16, 17, Code 30 (Detention)

No.	Question	Yes	No	N/A	
	Operating of Emergency system				
7a*	7a* Where the emergency source of electrical power is a generator, is it in correct operational condition?		0		

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

Requirements (Cont'd):

demonstrated.

2. Starting arrangements for emergency generating sets must be in good order as applicable (TABLE 5)

4.00	**	TABLE 6) >
	rting arrangements for emergency generating sets (
Type of Ship	Application	Reference
	For constructed on or after 1/9/1984, Emergency generator must be capable to start at 0°C. If lower Temp° is to be encountered, heating arrangements to be fitted to ensure ready starting. In Auto start mode the emergency generator must be fitted with starting devices with a stored energy capability of at least three consecutive starts. A second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated.	
	The stored energy shall be maintained at all times, as follows: Electrical and hydraulic starting systems shall be	
Cargo ships & Passenger ships	maintained from the emergency switchboard. - Compressed air maintained by main or auxiliary compressed air receivers or by emergency air compressor.	SOLAS 1981 Amend/ Chapter II-1/Reg. 44
	 If the emergency air compressor is electrically driven it must be supplied from the emergency switchboard. 	
	 All starting, charging and storing devices are to be located in emergency generator space. 	
	If the auto start is not required then manual start is permissible, such as manual cranking, inertia starters, manually charged hydraulic accumulators, or powder charge cartridges.	
	· When manual starting is not practicable, the requirements of regulation 44.2 and 44.3 shall be complied with except that starting may be manually initiated.	
	For constructed on or after 1/10/1994	
Cargo ships & Passenger ships	 In auto start mode the source of stored energy must be protected to preclude critical depletion by the automatic starting system, unless a second independent means of starting is provided. 	SOLAS 1991/1992 Amend/Chapter II-1/
(Additional requirement)	In addition, a second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be	R44





Nature of Defect:

 Not properly maintained, Damaged, Inoperative, Missing, Dirty, Inadequate, Insufficient, Not as required.

Potential Action Taken:

- Code 16, 17, Code 30 (Detention)

No.	Question	Yes	No	N/A
	Operating of Emergency system			
7b*	Where the emergency source of electrical power is an accumulator battery, are the batteries and its switchboard in good condition?		0	

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- 1. Emergency batteries and charge switches are properly installed. i.e. not loose or broken wiring
- 2. Leakage of electrolyte from batteries.
- 3. Charge status of the battery if the battery is equipped with a charging status indicator.
- Fault indicators installed for occurrence of an alarm such as power source failure, voltage defect, over-current and insulation failure.

*Note When in doubt about the health of the emergency batteries, PSCO may conduct black-out test considering the safety of vessels, crew or cargo.

Requirements:

Accumulator batteries and charge panels shall be installed on the uppermost continuous deck and the emergency switchboard shall be installed as near as the emergency source of power.

Accumulator batteries shall be suitably housed, and compartments used primarily for their accommodation shall be properly constructed and efficiently ventilated.

Accumulator batteries should be managed regularly according to the ship maintenance system.



Nature of Defect:

 Missing, dirty, inoperative, inadequate, insufficient, not properly maintained, damaged, not as required.

Potential Action Taken:

- Code 16, 17, Code 30 (Detention)



No.	Question	Yes	No	N/A
Operating of Emergency system				
8*	Is the emergency fire pump in full operational condition?			

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- 1. Fixed emergency fire pump is capable of producing at least two jets of water at or above the required pressure.
- 2. That power source of an emergency fire pump is supplied from outside the machinery space i.e. diesel engine driven pump or power from Emg. generator.
- 3. Priming devices if fitted shall be operated until the primed condition for the emergency fire pump.
- 4. Diesel engine driven pumps must be able to be started from cold condition at 0 degrees C by hand or other means 6 times within a period of 30 mins and at least twice within 1st 10 mins. Fuel tank to have sufficient fuel for 3 hours, reserve fuel stored outside machinery space for an additional 15 hours.

Requirements:

If a fire in any one compartment could put all the pumps out of action, the fixed emergency fire pump shall be fitted on below ships.

< Installation requirements of fixed emergency fire pump (Table 6) >

Date of constructed	Cargo ship
~25/5/1980, 25/5/1980~31/6/2002	GT 2,000 and upwards ^F
1/7/2002~	All cargo ship

If a fire in any one compartment does not put all the pumps out of action, the emergency fire pump will not be required.



Nature of Defect:

 Missing, dirty, inoperative, inadequate, insufficient, not properly maintained, damaged, not as required.

Potential Action Taken:

Code 16, 17, Code 30 (Detention)



No.	Question	Yes	No	N/A
	Crew familiarization with emergency systems			
9*	Where a fire drill and/or abandon ship drill was witnessed, was it found to be satisfactory?		0	0

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

- Evidence of fire drill and abandon ship drill have been carried out as scheduled and recorded in a logbook as prescribed by the Administration.
- *Note: If inspection of logbook/records reveals that drills have not been carried out as required by SOLAS 1996/1998 Amendments Chapter III Regulation 30, SOLAS 2013 Amendments Chapter III Regulation 19, a fire drill and abandon ship drill may be conducted.

Requirements:

- 1. Drill carried out as per company SMS schedule and in order.
- 2. Crewmembers are familiar with their duties and the proper use of the ships' installations and equipment.

Nature of Defect:

 Not as required, No recorded drills, Lack of training, Not conducted.

Potential Action Taken:

Code 17 and Code 30 (Detention)













No.	Question	Yes	No	N/A
	Crew familiarization with emergency systems			
10°	For the above checked emergency equipment, are the relevant crews familiar with the operation?		0	

Note:

- 1. QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.
- 2. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
- 3. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

PSC Checks:

1. The responsible crew may be interviewed and requested to demonstrate the handling of various emergency equipment under his charge as prescribed in the company SMS.

Requirements:

- Company SMS shall prescribe exercises and drills for emergency situations to ensure the adequate handling of emergency equipment.
- 2. The responsible crew shall be familiar in demonstrating the operation of the respective emergency equipment.
- Crew shall be capable of responding to emergency shipboard situations.

Nature of Defect:

· Not familiar.

Potential Action Taken:

Code 30 (Detention)







Decision for Detention

QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.				
No.	lo. Question Yes No N/A			
Crew familiarization with emergency systems				
11	Has the ship been detained, as a result of the Inspection Campaign?		0	

If "NO" is selected for question marked an "*", the ship may be considered for detention.







For Information



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