

## UI SC251 "Controls of emergency bilge suction valve in periodically unattended machinery spaces (SOLAS regulations II-1/48.3)"

### Part A. Revision History

Version no.	Approval date	Implementation date when applicable
NEW (Oct 2011)	25 October 2011	1 January 2013

#### • NEW (Oct 2011)

##### .1 Origin for Change:

- Suggestion by IACS member

##### .2 Main Reason for Change:

To clarify requirements to controls of the "valves" in the emergency bilge system.

To address the current terminology the "bilge injection system" being the same as the "emergency bilge suction line" (i.e. Reg. II-1/35-1.3.7.1) that is required for both steam and diesel ships.

##### .3 List of non-IACS Member classification societies contributing through the TC Forum and/or participating in IACS Working Group:

None

##### .4 History of Decisions Made:

Original document from a member contained only part (B) of the Interpretation. Part (A) was added by another member. All members agreed to this proposal except for editorial comments and invalid SOLAS references except for one member which was of the opinion that interpretation (B) is to be deleted because they think that this extension requirement should be applied to the valve which has the possibility of flooding through it and kept open state during the normal unattended condition.

##### .5 Other Resolutions Changes

None

##### .6 Dates:

Original proposal: *April 2009 made by: a Member of Machinery panel*  
 Panel Approval: *October 2011 by: Machinery panel*  
 GPG Approval: *25 October 2011 (Ref. 11040\_IGd)*

## Part B. Technical Background

List of Technical Background (TB) documents for UI SC251:

Annex 1. **TB for New (October 2011)**

See separate TB document in Annex 1.



## Technical Background for UI SC251 New, Oct 2011

### 1. Scope and objectives

To make an interpretation of the term "Bilge injection system" and set requirement to its control arrangement.

### 2. Engineering background for technical basis and rationale

1. SOLAS Reg. II-1/48.3 states:

The location of the controls of any valve serving a sea inlet, a discharge below the waterline or a bilge injection system shall be so sited as to allow adequate time for operation in case of influx of water to the space, having regard to the time likely to be required in order to reach and operate such controls. If the level to which the space could become flooded with the ship in the fully loaded condition so requires, arrangements shall be made to operate the controls from a position above such level.

2. Certain Port State Authorities have interpreted the above requirements for the controls of the valves serving the "bilge injection system" to apply to the valves controlling the "emergency bilge suction".

NOTE: The 'bilge injection' referred in SOLAS Reg. II-1/48.3, 'direct suction' referred in SOLAS Reg. II-1/35-1.3.7.1 both mean the 'Emergency bilge suction', which is used to discharge overboard large quantities of sea water accumulated in engine room bilges using the main circulating cooling pump for steam turbine ships or using the main sea water cooling pump for gas turbine ships and diesel ships.

3. The following arguments are made with respect to the application of SOLAS Reg. II-1/48.3 to the valves serving the emergency bilge system:

a) The intent of the requirement would not appear to be to facilitate dewatering via the emergency bilge system due to the following:

- i. To facilitate dewatering, such arrangement would also require addressing the elevation of the pump motor, pump controls, sources of power, etc. in addition to the elevation of the controls for the valves.
- ii. The requirements for emergency dewatering arrangements are identified in Reg. II-1/35-1.3.7.1. However, these requirements make no mention regarding elevation requirements or any reference to Reg. II-1/48.3.
- iii. Reg. II-1/35-1.3.7.1 in addressing emergency dewatering arrangements does not use the phrase "bilge injection system".
- iv. The emergency dewatering arrangements addressed in Reg. II-1/35-1.3.7.1 are only required on passenger vessels. SOLAS does not require such systems for cargo vessels. Therefore, insofar as SOLAS is concerned, cargo vessels do not have to be fitted with such emergency dewatering arrangements.

b) The intent of the requirement would appear to be to ensure that the crew has the means and ability to close possible sources of flooding through the shell penetrations in a periodically unattended engine before the valve controls are rendered inaccessible based upon the following: .

- i. The title of Reg. II-1, Reg. 48 is "Protection against flooding".

ii. The other valves addressed in Reg. II-1/48.3 represent specific sources of flooding through shell connections.

iii. The typical "bilge injection system" arrangement as seen in steam ships could have also represented a source of flooding since the sea water would typically be immediately behind the bilge injection valve via its connection to the sea water injection system. Since it was necessary to keep the shell valve for the sea water injection piping open in order to avoid damaging the condenser, flooding entering the engine room via the "bilge injection system" could not be readily isolated.

c) The likelihood of flooding of the engine room via the emergency bilge system appears quite remote where:

i. The emergency bilge suction valve is maintained in a normally closed position,

ii. The emergency bilge suction piping is fitted with a non-return device, and

iii. The emergency bilge suction piping can be isolated by a shell valve that is fitted with the control arrangements required by SOLAS Reg. II-1/48.3.

4. In conclusion, IACS Members have agreed that the reference to a "bilge injection system" in Reg. II-1/48.3 is not intended to include an "emergency bilge system" which is arranged with:

- a normally closed stop valve in the emergency bilge system piping,
- a non-return valve in the emergency bilge system piping, and
- inboard of a required shell valve fitted with closing arrangement complying with Reg. II-1/48.3.

### **3. Source/derivation of the proposed IACS Resolution**

SOLAS Reg II - 1/48.3 Bilge injection system.

### **4. Summary of Changes intended for the revised Resolution:**

Not applicable

### **5. Points of discussions or possible discussions**

None

### **6. Attachments if any**

None