

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learned from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at www.imca-int.com/links. Additional links should be submitted to webmaster@imca-int.com.

Accidents When Using Power-Operated Watertight Doors

A recent fatality involving such a door on an IMCA member's vessel provided a timely reminder of the number of lives lost and the serious injuries caused by the incorrect operation of power-operated watertight doors.

All power-operated watertight doors are designed to ensure maximum safety of the ship and to persons using them, but safe transit through a door which has been closed from the bridge control station requires that the operating instructions be strictly observed.

I Examples of recent accidents:

I.1 Nordic Apollo – November 1999

Recommended procedures – Transport Canada's Ship Safety Bulletins dated February 1995 and May 1991 – indicated that the door should be opened by holding the control with one hand and then reaching through and holding the controls on the other. An oiler found crushed in a door was thought to have attempted to go through the hydraulically-operated door prior to it being in the fully open position.

Earlier fatalities involving such doors which occurred in 1981 and 1990 had prompted Transport Canada to issue Safety Bulletins 04/81 and 07/91 respectively.

I.2 West of Shetland Operations 1999

Analysis showed that 25% of recorded 'days away from work' accidents during the year were attributable to the use of marine doors. An analysis of the root causes revealed that they could be attributed to:

- a) Behavioural attitudes towards the use and dangers of marine doors, which accounted for 90% of the causes of injury;
- b) Marine doors becoming progressively more dangerous due to lack of continuous planned maintenance;
- c) Traditional non-risk based design and approval of marine doors by naval architects and classification societies, who did not appear to have addressed the underlying operational dangers.

Following this analysis, BP Amoco produced an information video – "Get a Handle on Doors".

I.3 IMCA Member Vessel, North America

While working on ship, a worker was entering a workspace through a watertight door. During his entry the ship rolled with the seas, causing the heavy door to swing violently to a full open position. The worker lost his balance and was unable to maintain control of the door. The worker reached out to brace himself, using his right hand to grasp the doorframe. At that time, the ship rolled to the opposite direction, causing the door to swing back to a closed position, crushing the worker's thumb between the door and its frame.

This accident prompted the company concerned to issue guidance on hazard elimination – see Annex I.

2 Key Lessons – Training/Familiarisation of Crew Members New to a Vessel

1. Provide thorough familiarisation with and training in the operation of all power-operated doors, including details of the hazards of such doors. Training should include both review of written procedures and hands-on operational instruction.
2. Procedures (taken from the UK Marine & Coastguard Agency guidance note MGN 35(M+F))
 - 2.1 It is essential that when using a watertight door which has been closed, irrespective of the mode of closure, that both the local controls – one on each side of the bulkhead – are held in the "open" position while passing through the door. That can be done by first fully opening the door using the nearside control with one hand, reaching through the opening to the control on the far side and using the far side control to keep the door fully open until passage is complete.
 - 2.2 A person, when unaccompanied, must have both hands free to operate the controls and should never attempt to carry any load through unassisted. Accordingly supervision should be exercised over any work requiring movement of tools, parts or materials through a door. This will effectively make it a two man operation – one man to operate the door and another to carry the load.
 - 2.3 To avoid potentially fatal slips, the accumulation of oil leakage in the vicinity of the watertight doors should not be permitted.
 - 2.4 Written instructions need to be provided for the ship on the safe operation of the doors and it is essential that all crew members who may use the doors
 - a) know what type of control system is fitted;
 - b) are well trained in the correct operating procedure for the system; and
 - c) fully appreciate the crushing power of watertight doors.

This crushing power, together with expeditious closing, is necessary to ensure that watertight doors fulfil their primary purpose of ensuring maximum safety of the ship and its crew but if accidents to personnel are to be avoided it is essential that the operating instructions are strictly observed. Permanent notices clearly stating the correct operating procedure must be prominently displayed on both sides of every watertight door.

3 Acknowledgements

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4 References

1. Transport Canada Ship Safety Bulletin 04/81, 1981
– Accidents when using power-operated watertight doors
2. Transport Canada Ship Safety Bulletin 07/91, 1991
– Accidents when using power-operated watertight doors
3. Canada-Nova Scotia Offshore Petroleum Board, 23 November 1999
– Nordic Apollo Fatality Report
4. Secunda Marine Safety Bulletin 02/99
5. UK Department of Transport Merchant Shipping Notice M1151
– The operational control of watertight doors in passenger ships
6. UK Marine & Coastguard Agency MGN 35(M+F), November 1999
– Accidents using power-operated watertight doors

S A F E T Y A L E R T

Incident Description

While working on ship a worker was entering a workspace through a watertight door. During his entry the ship rolled with the seas causing the heavy door to swing violently to a full open position. The worker lost his balance and was unable to maintain control of the door. The worker reached out to brace himself using his right hand to grasp the doorframe. At that time the ship rolled to the opposite direction causing the door to swing back to a closed position crushing the workers thumb between the door and its frame.

Hazard Elimination

This incident could have been avoided through worker awareness of his work environment at the time of the incident and an understanding of "hand safety" and the danger of "pinch points". All the guards and gloves in the world won't protect you unless you take responsibility for doing jobs in a safe and sensible way that keeps your hands out of harm's way.

As a starter, pay attention to what you are doing. Working in rough sea conditions requires your whole attention. When your mind or eyes are somewhere else, injuries will happen. The first step is to focus totally on the job you're doing.

Here are a few safety basics for protecting you hands and body when walking through watertight doors of ships and vessels.

- In rough sea conditions, use both hands to control heavy passage doors.
- When entering through a doorway look up and look down to avoid striking head and feet on doorframe.
- Always face the door when both opening and closing the door.
- Never attempt to open or close a watertight door while holding an object in your hands.
- Never lose contact with door. Always grasp door with at least one hand.
- Never grasp a door by its edge. Always hold the door by an inside or outside handle.
- If regulations will allow, consider installing a door closure device designed to aid in door control and stability.