

«SAFE PASSAGE OF POWER OPERATED WATERTIGHT DOORS» LEARNING FROM INCIDENTS IN EQUINOR

2138697 ▪ Dolphin Wind - Person trapped in watertight door - ▪ Synergi Life (equinor.com)



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The Equinor SSU Learning Panel



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WHAT THIS IS ABOUT

For decades, lives have been lost and serious injuries suffered due to the incorrect operation of power operated watertight doors. As an example, an early fatality involving such doors was reported by Transport Canada in 1981: [Safety Bulletin 04/1981](#). To this day, seafarers are harmed by incorrect operation of watertight doors, sometimes even with fatal outcome.

Power operated watertight doors are installed to let crew move easily through the ships/semi-submersibles, and they shall be kept closed while at sea. Watertight doors are safety barriers which are designed to close with great force in an emergency. The crushing power of watertight doors must be acknowledged by those who are using them. The safe passage of watertight doors therefore requires strict adherence to the operating procedures.

The purpose of this learning initiative is to raise awareness of the crushing energy of power operated watertight doors, and to show how safe passage of watertight doors shall be conducted.

WHAT TO DO

- Review this material (including the film page 3) and consider the relevance for your Business Area
- If found relevant:
 - Reflect on the material, page 3 and page 5 – including the proposed actions in page 4
 - Document the selected actions
- If not found relevant:
 - Document why not and close action

WHO IS TARGET GROUP

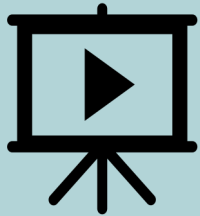
- Personnel onboard ships/semi-submersibles with **power operated watertight doors**



BACKGROUND INFORMATION & FILM

Watch film:

«*Safe passage of power operated watertight doors*»



Background information:

Power operated watertight doors represents a significant danger to personnel. The high closing power will cause severe injuries or become fatal if a person is squeezed. The industry has mainly been concerned with the watertight integrity related to operation of such doors, and not to the same degree the man-machine safety issues.

Examples from incidents:

- While in yard, person squeezed in a hydraulically operated watertight door on a semi-submersible offshore installation. The person dies from the injuries
- Crew member seriously injured when squeezed in a hydraulically operated watertight door on a mobile offshore drilling rig
- During repair work on board a passenger vessel alongside, a subcontractor representative was found to have been squeezed to death by a watertight door
- Person squeezed in a hydraulically operated watertight door on a semi-submersible offshore installation, resulting in moderate injuries to chest
- Subcontractor on a mobile offshore drilling unit was squeezed to death in a hydraulically operated watertight door
- Third engineer officer loses his arm (amputation) when trapped in a power-operated watertight door on a cruise vessel
- Crew member on passenger/ro-ro cargo/ferry died when trapped in a power-operated watertight door

The primary cause of most of these incidents is that personnel fail to operate the door in a correct way. The doors shall be fully opened before personnel go through and the door handle shall be held in the opening position. It is evident that personnel often make shortcuts in a way that the doors are only partly opened, and therefore the risk of getting hooked by the door in case the door closes increases. Doors may close automatically in remote closing, or inadvertently in case of a failure in the door mechanism. The consequences are often severe. In some of the accidents the door opening/closing times had been altered, such that the door moved relatively fast. This imposes a great danger of being hooked when door closes. There have also been accidents where there have been failures on the door mechanism.

Other relevant material within this topic:

- **e-learning course** in Equinor University, "*Safe use of watertight doors*"
- **Safety moment**, "*Safe passage of power operated watertight doors*"

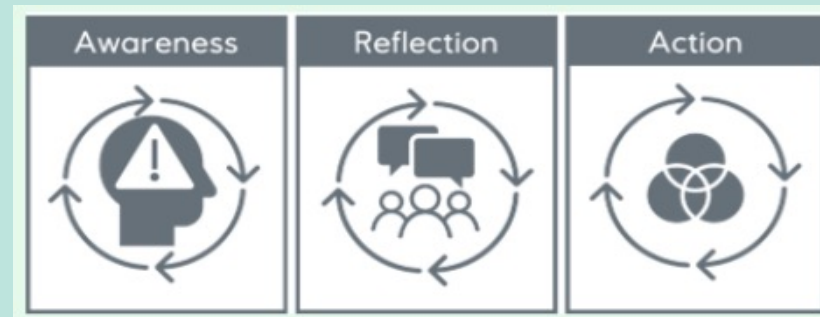
| PROPOSED ACTION RESPONSIBLE | PROPOSED ACTIONS | | PROPOSED DEADLINE | CLOSING CRITERIA |
|---|------------------|--|-------------------|---|
| Business area level | 1 | Identify relevance of the learning initiative for your business area | | Relevance identified |
| Business area level | 2 | If relevant, share learning initiative by use of Synergi cross learning, ref page 6 | | Learning initiative shared |
| Assets with power operated watertight doors | 3 | Review learning initiative material ; film page 3 and reflections page 5. Document as described | | Material reviewed as described in package |
| Assets with power operated watertight doors | 4 | Consider to publish the film on internal info screens, or similar, at local facility as safety awareness topic | | Concluded to or not to roll out film on info screens or similar |



REFLECTION AND DIALOGUE

Reflect on your and your team's practice for safe passage of power operated watertight doors:

1. In general, how is your safe passage practice onboard, are the rules being followed ?
 - a) Your practice
 - b) Your work team's practice
2. What can have negative impact on safe passage?
 - a) Reflect upon typical scenarios, key words: Time pressure, self-imposed stress, bad time, in a hurry, no time to wait, impatient, everything to go so fast, we are restless as nature etc
 - b) Discuss with your team and leaders on practice, error traps and potential improvements (keywords: dumb, different, difficult, dangerous)
 - c) Are there any job situations which are more challenging when it comes to safe passage? Keywords: transport of goods etc.
3. What measures can be taken to reduce/remove the challenges in certain job situations to ensure safe passage, ref 2c?
4. Do you have any practical tips which can be of help while waiting for the doors to open completely?
5. How can YOU contribute to improve and strengthen safe passage?



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