

# DON'T CURE PREVENT

ISSUE 12 DECEMBER 2021



## WHAT IS THIS NOISE ?



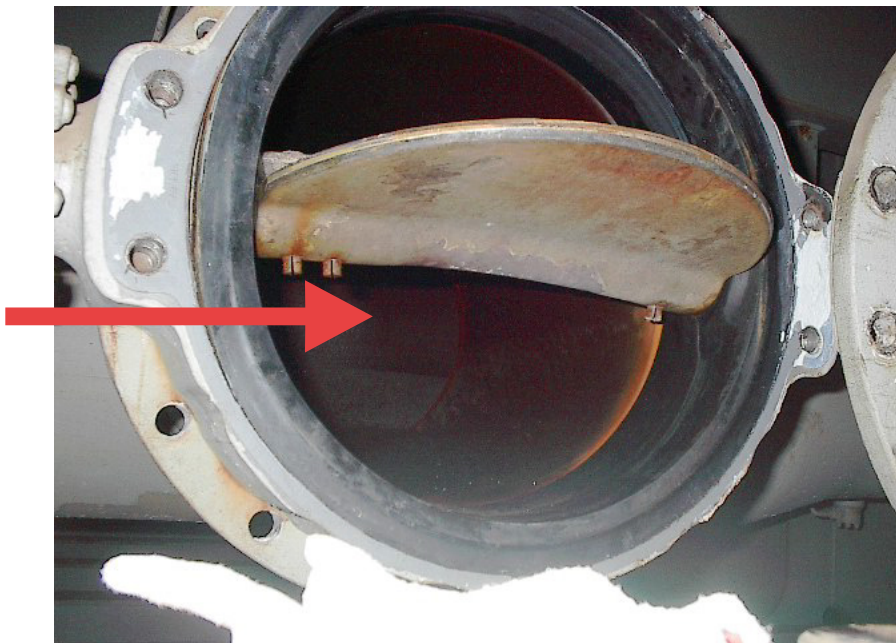
## WHAT IS THIS NOISE ?



### CASE

During an onboard Cargo Operation Audit, the Officer On Watch was performing simultaneously discharging cargo operation and ballasting operation by gravity at the bulk stage. P@S Assessor observed that the Officer On Watch considered, after calculations, that it was the right time to start the ballast pump. When the No1 ballast pump was started, the crew noticed an unexpected noise. After investigation it was concluded that the ballast piping system was facing a pressure surge.

*The subject observation, although not a common finding, is very critical. Pressure surge may damage pipelines and valves causing possible complications during PSC inspections, vetting inspections or class inspections, if the responsible Officers are not continuously alert during the cargo / ballast operation.*



### REGULATORY FRAMEWORK

#### **AS PER ISGOTT 6TH EDITION, CH. 12.1.4**

The incorrect operation of pumps and valves can produce pressure surge caused by the kinetic energy of the liquid flow in a pipe line system.

#### **AS PER ISGOTT 6TH EDITION, CH. 16.7.1**

A pressure surge occurs when the flow rate of a liquid rapidly changes and becomes unsteady.

#### **AS PER ISGOTT 6TH EDITION, CH. 16.8.2**

Prior to the commencement of the cargo operation , a pre-transfer conference should take place between vessel and shore representatives for exchanging information such as closure automatic *ESD\** valves, sudden starting or stopping of a pump, elevation of shore tanks, etc.

#### **AS PER VIQ 7TH EDITION, CH.8,5**

The details of the cargo plan should be discussed with all personnel, both on the ship and at the terminal.

*\* ESD: Emergency Shut Down valve*



## WHAT WENT WRONG?

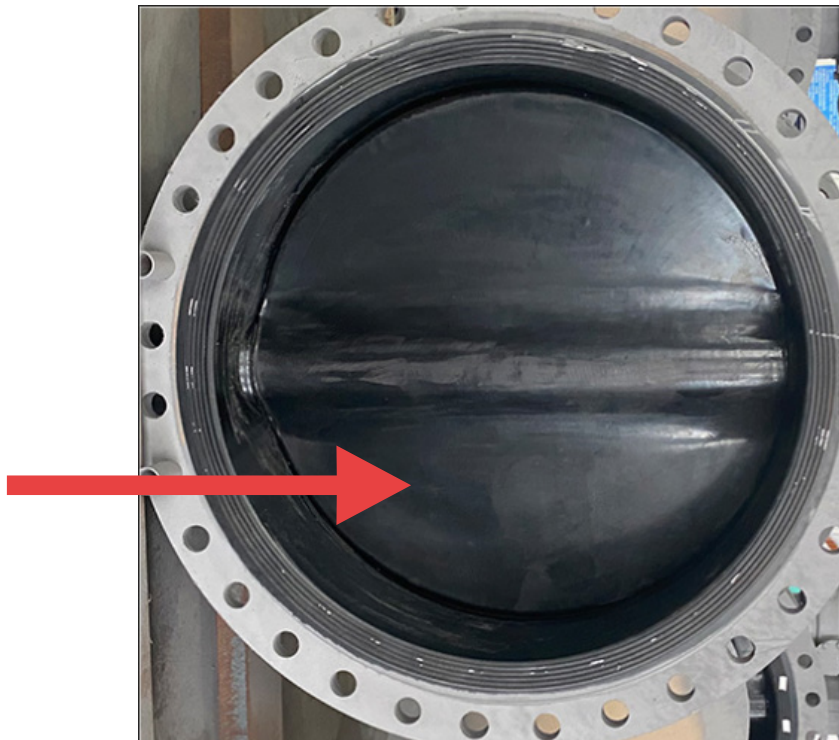
- ⦿ Non-compliance with Company's procedures for the proper performing of ballast/de-ballast operation.
- ⦿ Lack of best practice in the proper handling of starting and stopping pumps.



## OUR SUGGESTION

We suggest the following actions with the aim to prevent such cases from occurring;

- ⦿ The Company should prepare a cargo operation letter with practical guidelines for preventing generation of the 'hammer effect' or 'pressure surge'.
- ⦿ Company should provide extra training to the Cargo Officers in order to understand the invisible but still present hazards during cargo and ballast operation which once escalated, will cause operational problems.



## BEST PRACTICE

- ✓ Before starting, a ballast pump fill slowly the ballast line and the dedicated tanks by gravity, so as to allow entrapped air to escape.
- ✓ **Open** all valves of the ballast line including the tank valve.
- ✓ **Close** the discharging valve of the ballast pump **before** you operate.

### REMEMBER:

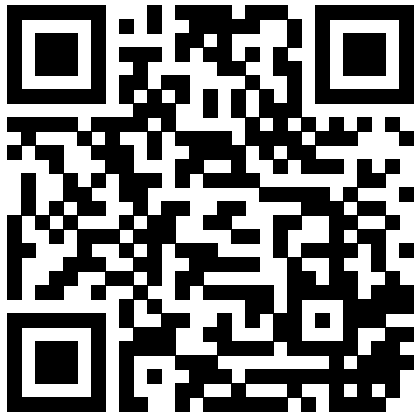
- ▶ Always follow the steps of cargo transfer plan.
- ▶ Be alert, invisible hazards waiting to unfold/escalate.



TEST YOUR KNOWLEDGE

CLICK ON THE LINKS *OR* SCAN THE QR CODE

Q&A



SPOT THE DEFICIENCY



 PREVENTION AT SEA

**DON'T CURE  
PREVENT**

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FOR MORE INFORMATION,  
PLEASE DO NOT HESITATE TO CONTACT US.

 **Prevention at Sea Ltd**  
5 Artemidos Avenue, 6th Floor,  
Artemidos Tower, 6020  
Larnaca - Cyprus  
**Tel:** +357 24819800  
**Fax:**+357 24819881

 **Prevention at Sea GERMANY**  
Pestalozzistraße 25,  
22305 Hamburg, Germany  
**Tel:** +49 40226329710

 **PREVESEA Ltd**  
91 Akti Miaouli Str.  
Piraeus 18538  
Athens - Greece  
**Tel:** +30 210 64 37 637

 **Prevention at Sea ASIA**  
80 Robinson Road  
068898, Singapore  
**Tel:** +65 64206258

 [info@preventionatsea.com](mailto:info@preventionatsea.com)

 [www.preventionatsea.com](http://www.preventionatsea.com)