

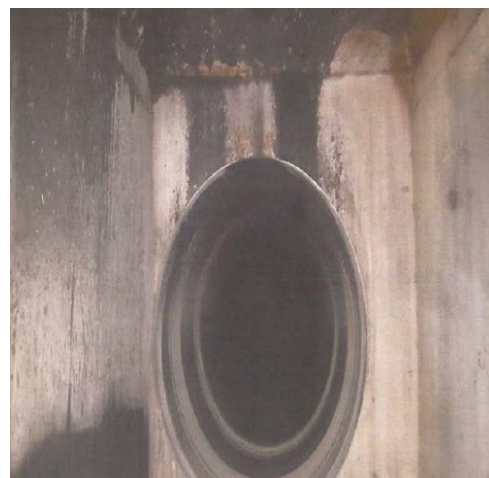
Title: Suspected lung/ blood poisoning of a contractor working onboard a managed ship

What happened

A managed ship was under dry dock repairs for a planned docking and intermediate class survey. A team of 2 contractors and 2 wipers from the ship's company were assigned to wash out the soot from the Exhaust Gas Boiler/Economizer. Reportedly, the team of workers and the supervising 2nd engineer in charge held a short meeting before commencement of the work. After the meeting the workers received PPE from the assistant store keeper consisting of disposable overall (for the person entering the economizer), goggles, gloves and paper masks. On their request to receive masks with filters, the assistant store keeper advised them that he had only paper masks.

Wearing the PPE provided, one of the contractors entered the upper side of the Economizer and started washing, while the rest of the team were assisting from outside with hoses and pump arrangements, pumping out the water, providing communication with the person inside etc. After approx. 10-15 minutes the contractor working inside informed the wiper assigned as team leader that he was inhaling dust particles and could not continue working with a paper dust mask. He was then provided with a half-face filter mask and continued washing for another short period, after which he requested and received a full face mask with filter.

The work was carried out in this manner until the lunch break. After lunch the contractor started coughing and felt sick. He visited the medical center onboard and was suspected to be suffering from carbon monoxide (CO) poisoning of the lungs/ blood. He was sent to a shore hospital where he was diagnosed with "metal steam fever" and given the appropriate treatment.



Root causes/contributory factors

An internal investigation on board was carried out by the Safety Officer and the atmosphere inside the Economizer was tested by the responsible environmental team of the Shipyard.

Findings/Contributory factors/ Root causes:

- The Economizer had been opened since the beginning of the dry dock and well ventilated, but no atmosphere testing was performed prior to the commencement of the work
- The atmosphere testing after the accident indicated normal oxygen levels and lack of dangerous gasses (including CO)
- The assigned workers were wearing inappropriate PPE
- Company VMS procedures relating to Enclosed Space Entry, Tool-Box-Talks, Risk Assessment, PPE etc. were not followed

- The pre-job meeting was not effective – not all job related hazards were identified, risk assessment was not reviewed / carried out, adequate control measures (including appropriate PPE) were not considered and implemented
- The 2nd engineer in charge did not exercise proper supervision and leadership
- The wiper assigned as team leader identified that the PPE was not adequate, but did not exercise his right and obligation to “Stop the job”
- Human failure relating to:
 - o Situational awareness
 - o Alerting
 - o Safety Culture
 - o Local practices (procedural violations)
 - o Teamwork

Proposed Corrective/Preventive Actions

The Vessel:

- Discuss the accident during SEPPH Committee meeting
- Re-visit the Company procedures referenced below
- Review all related ship-specific Risk Assessments and update them accordingly
- Enhance Officers’ familiarization with VMS
- Improve OH&S training of contractor personnel working onboard

The Company:

- Distribute a Case Study to the managed fleet
- Improve onboard safety practices and leadership during visits onboard
- Review related Company Generic RAs

Reference

- [COSWOP \(Code of Safe Working Practices for Merchant Seamen\)](#)
 - o chapter 1 Managing Occupational Health and Safety
 - o chapter 8 Personal Protective Equipment
 - o chapter 15 Entering Dangerous (Enclosed) Spaces
- Company eLVMS:
 - o [Company](#) > Stop the Job Policy
 - o [Operations](#) > [Risk Management](#) > Operational Risk Assessment
 - o [Operations](#) > [Safety Management](#) > [Occupational Health & Safety](#) > Crew Accident Prevention
 - o [Operations](#) > [Safety Management](#) > Tool Box Talks
 - o [Operations](#) > [Safety Management](#) > Personal Protective Equipment (PPE)
 - o [Operations](#) > [Safety Management](#) > Permit to Work System item 7 - [Enclosed Space Entry](#)
 - o [Operations](#) > [Shore Operations](#) > [Shore Management Services](#) > Routine Dry Docking / Major Repairs item 5 - [Safety](#)

Completed