

KISH P & I LOSS PREVENTION CIRCULAR KPI-LP-125-2013 **(Air Reservoir Drainage Operation Causing Fatality)**

The purpose of this Marine Notice is to draw industry attention to a fatality on board a foreign flagged vessel in Australian waters.

► **Description of the incident:**

The fatality occurred while draining the accumulated oily water emulsion from the ship's main air reservoirs. The main air reservoirs (normally two on each ship) situated in the engine room, store air at high pressure.

The maximum pressure of air stored within these reservoirs typically varies from 2.5 to 3.0 MPa. Main air compressors, mostly reciprocating multi-staged inter-cooled type, are used to charge the air reservoirs.

Due to the high pressure within the reservoirs, moisture contained in the compressed air reaches its dew point in the cooler atmosphere within the reservoirs and condenses to form droplets of water. The water collects at the bottom of the reservoir. Particles of air compressor lubricating oil are also carried over with the compressed air and mix with the collected water to form an emulsion inside the air reservoir.

The accumulated emulsions are regularly drained using drain valves located at the lowest level of the reservoirs to avoid damage to machinery and to avoid rust forming inside the air reservoirs.

On this vessel the blow down pipe from the reservoir after the drain valve is led to a small cylindrical observation pot, the top of which is covered by an observation glass attached in place by bolts and a flat steel retaining ring. At the bottom of the pot a small hole of approximately 10-12 mm is drilled which allows the emulsion to be drained and led away for disposal.

Although, it is not clear as to the actual sequence of events, it is understood that the fourth engineer was fatally injured when the glass on the observation pot of a main air reservoir exploded and the flying debris struck his face.

The design of this kind of blow down arrangement is relatively new and only a small number of vessels are found fitted with them.

All ship owner/managers, seafarers, classification society and independent surveyors, and all other stakeholders who come across a vessel with similar drainage arrangements are requested to take notice of this tragic incident and take appropriate actions.

Observation pot drain
Glass covered observation pot

