



Tank Manhole Cover Securing

The Club encounters a surprisingly frequent number of claims for cargo damage and other liabilities caused by leakage from the manhole covers of either ballast or bunker tanks. In some of the most recent cases the manhole covers had either been left completely unattached, or were improperly fitted allowing leakage into the adjacent cargo hold when the tank was filled.

In one such incident a cargo hold was flooded with bunkers that was discovered only when the hold bilge alarm was triggered. One of the manholes of a bunker tank had not been refitted after a tank inspection. The location of the manhole in this case was such that it was not easily accessible or visible from the regular operational areas of the vessel; as a result the missing cover went unnoticed.



Top side manhole cover

In another similar incident, the manhole access cover for a double bottom ballast tank was not properly secured after an internal inspection. Cargo was later loaded and when the tank was ballasted it leaked into the hold and damaged the cargo. It was necessary to discharge the cargo in that hold to allow the manhole cover to be properly secured and the integrity of the tank to be verified by a hydrostatic test.

Manhole removal to allow tank inspection is carried out frequently as part of periodical inspection or maintenance. The opening, gas freeing and closing up of

tanks on completion of work is therefore considered to be a routine operation with established safety procedures. Where the focus has been rightly on the gas freeing and enclosed space entry safety checks and procedures, it would seem there is insufficient emphasis on the safe completion and closing up operation; either being left for a later time or to inexperienced crew.

Manhole covers on vertical bulkheads, such as those on wing tanks or side tanks of container ships, are generally located close to the bottom of the tank meaning that leakage from the cover is found only after the tank has been filled to a certain head. This makes it even more difficult for the manhole cover to be secured until the contents of the tank have been transferred from the tank to stop the leakage.



Inaccessible side tank covers

The extent of damage caused in such a case will often depend on how quickly the leakage is identified and the scope for quickly transferring out the contents. Side tanks are particularly difficult in this regard as leakage may go unnoticed due to their location being obscured by cargo.

All work carried out on board a vessel that poses a risk to personnel, environment, vessel or cargo should be accompanied by a permit to work issued as per the Safety Management System. Safe working procedures, along with control measures, are to be developed based



on a risk assessment carried out by a competent person. The permit to work is issued by an authorised person who is also responsible for the close out of the permit upon successful completion and verification of the task.

Incidents such as those described above continue to happen despite the presence of safety systems. In most cases investigation generally shows this is because of a disregard for the safety procedure, an incomplete risk assessment or an improper close out of the permit to work.

It is imperative that the risk assessment which forms the basis for the safety procedure and control measures should include the entire work process required for returning the vessel to its original safe condition upon completion of the task and not just limited to the main task at hand. It is also important that the permit to work is fully verified before closing out.



Poor condition of tank cover

It should include the manhole cover number, its location along with the checks required for assessing the condition of the manhole cover, sealing gasket, sealing surface, fasteners etc. Sufficient inventory of spares should be available on board.

The crew should be familiar with the required manhole cover standards as stated on the ship tank arrangement plan and use only the prescribed spares.

Control measures should also include hydrostatic pressure testing of the tank upon completion of the work. The permit to work should not to be closed until the tank has been secured and the hydrostatic pressure testing has been completed. In case of transfer of responsibility, handing over notes should highlight all open permits to work forms and the current status.

See Code of Safe Working Practice Chapter 14 for further information on Permit to Work Systems and Implementation procedures.

For further information on this or other Loss Prevention topics please contact the Loss Prevention Department, Steamship Insurance Management Services Ltd.

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