

PSWG notes on NSS operations

- Stevedoring and logistics service providers
- Pack / unpack containers, Quarantine wash facilities, Local transport, Container repairs
- Container terminal, general cargo, project cargo
- New Shed – stockpile management of clients cargo – SMC ferrite, other ad hoc cargoes
- Load out of bulk cargo from shed to wharf in half height containers
- Stevedoring (loading of product) using rotabox into cargo hold

Rotabox

- In 2011 won the Australian Bulk Handling Award for Dust Control Technology, Application or Practice category
- Enclosed bulk product from stockpile to vessel, lid only removed once container is lowered in hold, then product is tipped, lid placed back on and container removed from hold
- Water spray system in cargo holds to suppress any dust

Bulk Shed

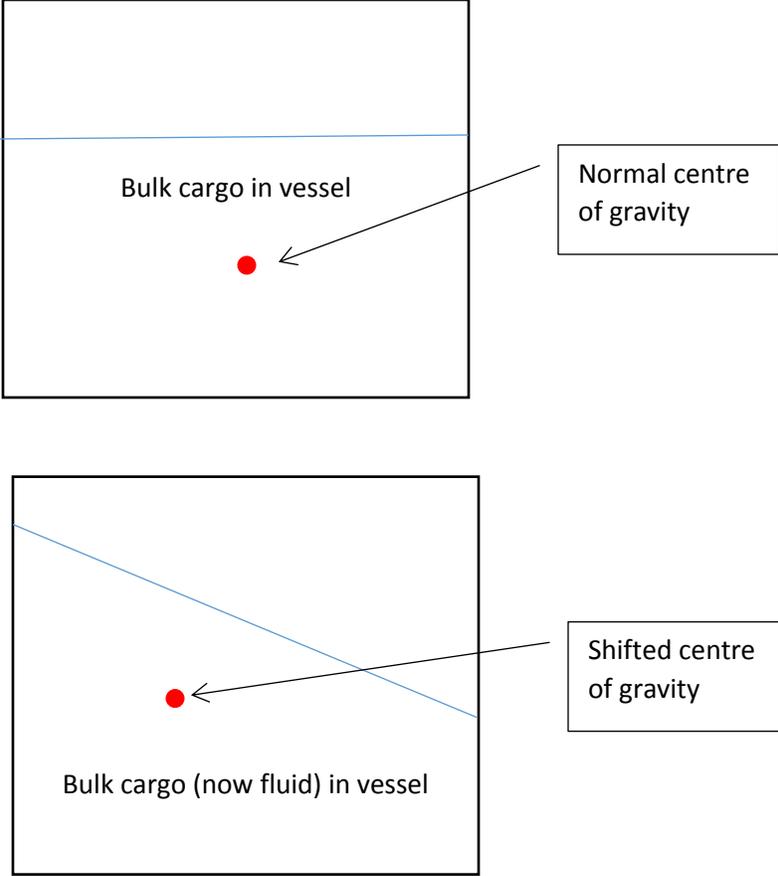
- Dust Filtration system with real-time monitoring and automatic shut down
- Negative pressure to contain dust
- Captures rain water from roof into tanks that feed into truck wash
- 2 x Truck wash systems on exit
- Recycles water for reuse
- Bio retention pit
- 384 Solar Panels being installed July/Aug 2015

Notes on Transportable Moisture Limit (TML)

TML refers to the maximum moisture content as a percentage of volume of bulk cargo that is considered safe to transport on ships. If the cargo is assessed as having a higher moisture content, it is strongly recommended that the cargo should not be transported unless the vessel is specially built or fitted. The decision on whether or not to load and transport a cargo is always ultimately that of the ship's master and the port authorities.

If a parcel of bulk cargo is loaded with a high moisture content (exceeding its TML), it poses a very real and significant risk to the safety of the crew and the vessel. In a 'seaway' (swell at sea), the various movements of a vessel such as rolling and pitching, in combination with the vibration of the vessel's engine can effectively make solid particles move like a fluid, en masse. If this occurs, as the vessel rolls, the centre of gravity of the cargo shifts away from the centre of the cargo hold. With progressive rolls, the cargo acts like a wave, building in intensity shifting the centre of gravity further from the centerline

of the vessel. This difference eventually produces an unstable equilibrium, causing the vessel to overturn.



Due to the effect a high moisture content in bulk products can cause on a vessel's stability, the use of water to dampen down dust emissions must be closely monitored.