SYNOPSIS

During the evening of 25 February 2007, on passage in the Baltic Sea, *Annabella* encountered heavy seas which caused the vessel to roll and pitch heavily. The master reduced speed and adjusted course to reduce the motion and by the early hours of 26 February the vessel had resumed her normal passage. That morning it was discovered that a stack of seven 30 foot cargo containers in bay 12, number 3 hold, had collapsed against the forward part of the hold. This resulted in damage to the containers, the upper three of which contained hazardous cargo, viz: Butylene gas (IMDG Class 2.1).

The vessel was originally heading for Helsinki and was redirected to the port of Kotka where the emergency services attended and specialist contractors safely unloaded the damaged hazardous containers on 4 March.

The collapse of cargo containers occurred as a result of downward compression and racking forces acting on the lower containers of the stack, which were not strong enough to support the stack as their maximum allowable stack weight had been exceeded and no lashing bars had been applied to them.

As a result of its analysis of this accident and the ascertainment of its causes and circumstances the MAIB considers that there are shortcomings in the flow of information relating to container stowage between the shippers, planners, the loading terminal and the vessel. While the industry recognises that the master must approve the final loading plan, in practice the pace of modern container operations is such that it is very difficult for ship's staff to maintain control of the loading plan.

The MAIB also considers that the presence in the transport chain of containers that have an allowable stacking weight below the ISO standard should be highlighted by appropriate marking and coding.

The safety issues identified in this, and other, published investigation reports, together with issues that are becoming apparent in the MAIB's ongoing investigation into the structural failure and flooding of the container vessel MSC *Napoli* (January 2007), identify a compelling need for a Code of Practice for the container shipping industry.

The MAIB has therefore recommended the International Chamber of Shipping (ICS):

> To work with industry to develop, then promote adherence to, a best practice safety code to ensure that (inter alia):
>
> - Effective communications and procedures exist between all parties involved in the planning and delivery of containers to ensure ship's staff have the resources and the opportunity to safely oversee the loading and securing of cargo.
> - Cargo securing manuals are comprehensive and in a format which provides ready and easy access to all relevant cargo loading and securing information.
> - Loading computer programmes incorporate the full requirements of a vessel's cargo securing manual. Such computers should be properly approved to ensure that officers can place full reliance on the information provided.

- The availability or otherwise of a reliable, approved, loading computer programme is a factor to be included in determining an appropriate level of manning for vessels on intensive schedules.
- The resultant increase in acceleration forces and consequent reduction in allowable stack weights when a vessel's GM is increased above the value quoted in the cargo securing manual is clearly understood by vessels' officers. The consequential effect on container stack weight, height and lashing arrangement for changes in the vessel's GM should be readily available and clearly displayed to ships' staff.
- Those involved in container operations are aware that containers with allowable stack weights below the ISO standard are in regular use and must be clearly identified at both the planning and loading stages to avoid the possibility of such containers being crushed.
- With respect to cargo planning operations:
    - cargo planners have appropriate marine experience or undergo training to ensure ship safety considerations are fully recognised
    - cargo planning software provided is able to recognise and alert planners to the consequences of variable data e.g GM, non standard container specifications
    - lessons learned from problems identified during container planning operations are formally reviewed and appropriate corrective measures put in place
    - ships' staff are provided with sufficient time to verify/approve proposed cargo plans.

The MAIB has also recommended Döhle (IOM) Limited:

- To ensure that when officers are promoted into senior ranks they receive sufficient familiarisation so as to be fully conversant with the contents of the vessel's cargo securing manual before taking responsibility for loading and securing cargo.
- To ensure that given a vessel's schedule, the manpower allocated to the vessel is sufficient to ensure that the requirements of the company's safety management system can be fully met.

The MAIB has also recommended Unifeeder A/S:

- To revise its current operating procedures to ensure lessons learned from problems identified during container planning operations are formally reviewed and, when appropriate, corrective measures put in place.