

The Hyundai Fortune fire has focussed attention on growing dangerous goods losses, reports Ken Burgess



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MAJOR ACCIDENTS

- Hyundai Fortune 5,500teu containership, March 2006, Indian Ocean. Explosion aft leading to fire in deck cargo of dangerous goods. If declared a total loss, the Hyundai Fortune could be the largest containership claim. The cargo claim could total well over \$100m and the hull \$40m. Cargo claims settlement could take years.
- MOL Renaissance, 3,000teu containership, January 2006, Red Sea. No. 2 hold burnt out.
- LT Utile containership, August 2003, China. Fire caused by (undeclared) organic peroxide.
- Sea Elegance containership, 2003, off Durban. Fire involving calcium hypochlorite caused one fatality.
- Hanjin Pennsylvania 4,389teu containership, November 2002, off Sri Lanka. Fire followed by explosion. Two fatalities and half of 3,500 containers aboard lost.
- CMA Djakarta 2,100teu containership, July 1999 off Med coast of Egypt. Explosion then fire involving calcium hypochlorite in two containers on deck. Vessel abandoned.
- Aconagau 2,216teu (new) containership, December 1998, off Ecuador. Explosion then fire in No. 3 hold.
- DG Harmony containership, November 1998, en route US to Brazil. Virtually all cargo destroyed in an incident involving calcium hypochlorite.
- Sealand Mariner containership, April 1998, off Crete. Explosion then fire causing two fatalities.

Of critical concern

It's July 1971 and a Danish dry cargo ship, the Poona, is loading in Gotenburg. Stacked on one side of the main hold are drums of rapeseed oil, on the other drummed sodium chlorate. Steel machinery components, being lowered into the centre space, swing and puncture drums on both sides. The oil and sodium chlorate mix and friction sparks from the steel provide an ignition source for an explosion that blows hatch covers across the harbour. The resulting blaze, fed by the sodium chlorate, takes ten days to extinguish, four workers are killed, the port is closed and the Poona is lost.

Fast forward to 2006 and the Code spurred by the Poona incident, the International Maritime Dangerous Goods (IMDG) Code, is now mandatory for ship operations and the Poona's cargo now moves in freight containers. Yet losses from dangerous goods incidents in container ship operations are mounting and the industry is paying attention. The UK P&I Club recently posed a question and gave the answer: 'Is there a problem?...Yes.'

That problem often starts far from the ship, in a container packing station or shipper's yard. While there are IMO mandated training standards for ships' crew, there are none for shore-side staff. A few national governments, notably in the US, require training for personnel involved in dangerous goods transport, but even there a recent finding by the US Department of Transportation found that untrained employees continue to be one of the greatest sources of hazmat transport issues.

In most countries, all you need to set up as a container packer is a ramp and a forklift truck. Because you are not required to be trained, there is little investment in providing that training. So, you can put different drummed chemicals together in the container without knowing or caring if they will react in the event of a leak, forget to declare them on the

paperwork, not bother to brace the load against shocks in transit and go home. Statistically, the container will make the sea journey without a problem and without detection. But it may just be the start of an incident deep in the hold of a 6,000teu containership hundreds of kilometres from land. There is little the crew can do about it then.

Fortunately, you will be in the minority, as most shippers go to great lengths to get it right. That means complying with very complex rules for dangerous goods classification, packaging, labelling, stowage and segregation in the container and documentation. It is a time-consuming task in a fast-moving process. The last check before a container goes on board is the shipping line 'hazdesk'. Under the pressure of sailing deadlines, booking staff work through shippers' faxes, e-mails and documentation as each manifest is built, mindful that rejected shipments may involve a conversation with the commercial department. The hazdesk staff's authority, expertise and resources to properly check everything are crucial.

Once past the hazdesk check, a deficient container load is statistically unlikely to be detected. Random port inspections by government Competent Authorities and port authority inspectors, with containers being opened, are a partial deterrent to misdeclaration, especially in Europe and the US. The level of fines imposed by the US Coastguard certainly gets attention, but they tend to focus on inbound US traffic. One measure being adopted by shipping lines is the appointment of surveyors to inspect specific or randomly selected containers awaiting loading to their vessels.

Rotterdam-based inspection specialists, Port Supervisor, have identified both strengths and weaknesses in the current inspection regime. 'More and more shipowners are arranging checks on hazardous cargo and that is adding a valuable layer



■ Badly stowed containers pose a big dangerous goods problem

of security. These owners are taking on an extra social responsibility as a component of corporate governance,' comments director Rob Smits. 'Much has improved during the past 15 years as a result of regular inspections, but the process has stagnated at an unsatisfactory level'.

That 'unsatisfactory level' shows up in data from west European ports: one in ten inspected containers is unsafe because of serious deficiencies with hazardous substances. It's not only the standards of consigning and packing that must improve, says Smits, but also the inspection methodology. 'There is lack of uniformity, clarity and follow up of problems.' To address this, Port Supervisor has developed a quality assured inspection regime that includes inspection protocols and data management. The package will soon be piloted with a group of shipping lines, chemical manufacturers, container freight stations and competent authorities.

The variety and quantity of dangerous goods

shipped comes as a surprise: on many routes some 10% of containers, more or less depending on the trade. They comprise chemicals, paints, explosives, consumer products and components. Fireworks hit the headlines, but highly reactive chemicals are just as likely to be the source of an incident, with a spectacular firework display the result as they are carried on deck.

Dangerous goods move on all container routes, both feeder and trunk. With manufacturing shifted to China and Asia Pacific, dg traffic from the region is growing. The concern is that this growth is outpacing the training and skills of the shippers and container packers. Similar problems exist in all regions and it is acknowledged that without stronger enforcement to provide the incentive for training, they will continue. ■

Ken Burgess is Chairman of Exis Technologies, developers of computerised systems for dangerous goods transport by sea. UK-based Exis was founded 20 years ago and works with major shipping lines, ports, shippers and regulatory organizations around the world. The company's website is www.hazcheck.com

INDUSTRY INITIATIVES

Four major industry initiatives are addressing the training and skills gap amongst shippers and packers of dangerous goods. These are:

Det Norske Veritas (DNV): Standards of Competence

DNV SeaSkill provides tools and expertise to evaluate the competence of individuals based on Standards for Certification for Competence. According to senior principal surveyor, Sverre Dahl, extending this to shore side staff involved in dangerous goods is long overdue.

'STCW addresses only ships' crew,' he says. 'There is currently no standard for independently verifying and certifying the competence of shore-based personnel, yet as has been tragically shown by events, the actions of these directly affects the safety of ships and their crews and can have major environmental consequences.'

'At DNV SeaSkill, with active participation of the shipping industry and a Committee of Experts, we are developing a new DNV Standard of Competence of Shore-based Dangerous Goods Personnel based precisely on the IMDG Code specifications.'

UK P&I Club: Education, Encouragement and Enforcement

When, at a recent London seminar, loss prevention officer Karl Lumbers posed the question: 'Is there a problem?' he followed it with a dramatic list of casualties (see p.31) that made it rhetorical.

He added: 'There is a significant lack of knowledge about the required documentation, with many employees of shipping companies, forwarding agents and container packers poorly informed about hazards and IMDG Code requirements. The knowledge gap may increase.'

To counter that threat, the UK P&I Club has launched an initiative based on the 'three 'E's'. On the 'Education' front it has produced a training package of four guidebooks and CDs, entitled 'Book it Right and Pack it Tight'. It will be 'Encouraging' authorities to licence, control and audit the supply chain and to standardise procedures. Finally, it will work to ensure that regulations are 'Enforced.'

Chemical Distribution Institute (CDI): Marine Packed Cargo scheme

The CDI administers the Marine Packed Cargo scheme, one of the largest QA projects

of its kind with over 120 auditors based in the major container handling ports.

Developed to provide a risk assessment system for the entire supply chain, the CDI-MPC scheme provides audit reports on each category of service provider and includes shippers and forwarders, ship operators, tank container operators, container packers, agents, and container terminals. Martin Whittle, CDI gm, says, 'For a global business it is necessary to have an international audit standard that provides consistent data and risk assessment processes that can be adopted by all and applied to the entire supply chain; measuring not only safety, security and quality performance, but also compliance with the international regulations and industry best practice.'

IMO and Exis Technologies: IMDG Code function-specific training

There has long been a model course on the IMDG Code for training shore-side staff. From 2007, an interactive training course for shore side staff will be distributed with the Code that implements training for the required function-specific skills. This will correspond to the DNV Standard of Competence.