COSTHA attracted a record crowd, much to the pleasure of regular exhibitors

Everyone loves safety

CONFERENCE REPORT For those new to the dangerous goods business, dealing with the existing regulations is bad enough. Add in the constant flow of amendments and it must be a nightmare. Attending the COSTHA annual forum provides a cost- and time-efficient means of coming up to speed

It was a big crowd that turned up in Scottsdale, Arizona this past April for the annual forum and expo of the Council on Safe Transportation of Hazardous Articles (COSTHA). Numbered among them were a large proportion of first-time attendees and it must be hoped that these newbies were not put off their incipient careers in hazmat transportation by the extent and depth of the presentations on offer.

As reported in the first part of this review of the event (**HCB** June 2011, page 16), delegates heard from some very high-level regulators in the US Department of Transportation (DOT), its Pipeline and Hazardous Materials Safety Administration (PHMSA), and Transport Canada's Transportation of Dangerous Goods (TDG) directorate.

The meeting soon took on an even more international flavour, starting with a review by **Leonardo Vargas**, head of dangerous goods for Panalpina's Mexico City operation, of recent regulatory developments in Mexico. As part of its commitments to the North American Free Trade Agreement (NAFTA), Mexico has pledged to harmonise its regulations wherever possible with international provisions. Like most countries, it also applies the International Maritime Dangerous Goods (IMDG) Code to marine transport and the International Civil Aviation Organisation's (ICAO) Technical Instructions for air transport.

Mexico's land transport regulations follow closely the UN model regulations. However, Leonardo explained, this is done through a completely different structure and the Normas Oficiales Mexicanas (NOMs) that implement the provisions take more than a year to review and update. Once in force, NOMs must be reviewed after a year and again after five years; clearly this is out of step with the periodicity of amendments to the international regulations and can lead to Mexico falling out of alignment with its trading partners.

New rules on the block

Tom Ferguson, COSTHA's technical consultant, reviewed recent developments at UN level, complete with holiday snaps from the December meeting in Geneva. Usefully for those new to the business, he explained how the biennial cycle works and how the decisions made by the UN experts filter down to the modal and national level.

The hot topics during the 2009-2010 biennium, Tom said, included:

(a) the introduction of 'de minimis' provisions as a sub-category of Excepted Quantities;
(b) various changes to the provisions for lithium batteries, including amendments in the Manual of Tests & Criteria;
(c) clarification of those used healthcare products that are covered by the regulations;
(d) provisions for the carriage of chemicals under pressure;
(e) the transport of mercury (one area where the US disagreed with the majority); and
(f) the use of flexible bulk containers and a new 'BK3' designation.

Tom warned delegates of a few important issues that are scheduled for discussion during the 2011-2012 biennium. These include corrosivity criteria – a subject "that will not go away" – packaging size limits for viscous liquids, more on lithium batteries, the permissible sizes of labels and markings, and classification of the newly developed 'asymmetric capacitors'. Further out, Tom said there will be more attention paid to aligning the level of risk with the level of regulation. He also expects the model regulations

to have to accommodate other new technologies, such as large-format lithium batteries and other energy storage devices.

Industry should not feel like it is cut off from the regulatory process, Tom said. All US corporations can make representations to PHMSA and COSTHA members can also have a say through the Council, which holds a conference call before and after each meeting of the UN Sub-committee of experts.

Turning to the air mode, **Geoff Leach**, manager of the Dangerous Goods Office at the UK Civil Aviation Authority (CAA), also gave delegates some historic background before moving on to recent and upcoming rule changes. The 2011-2012 edition of the Technical Instructions had just come into force; one problem had been found in Part 4, under 'general packing requirements', where hermetically sealed inner packagings not exceeding 500 ml do not have to be packed in accordance with orientation arrows. For a start, there is disagreement over the intended or received meaning of 'hermetically sealed', and for a second, cargo acceptance personnel are unlikely to how the size of the inners. This section is being revisited, Geoff said.

The ICAO experts are already well on the way to drawing up the amendments that will come into effect with the 2013-2014 edition of the Technical Instructions, which are based on the changes adopted by the UN last year that Tom had already rehearsed. ICAO has adopted the 'de minimis' concept but on a standalone basis and not as a sub-set of Excepted Quantities.

Offered and accepted

ICAO also has to take into account the particular operational issues faced by air carriers. There are, therefore, additional amendments due to enter into force in 2013, some affecting states, some affecting shippers and some affecting operators. Tom had already mentioned mercury and Geoff pointed out that, when mercury is carried in a manufactured article, there is no need to describe it on the air waybill and only one proper shipping name will be listed. This is possibly more of an issue for the US, he said, because of state variations. It may be that the amendment is not applied to air transport.

Shippers need to be aware of some important issues, Geoff continued. There is an ongoing debate about what packagings to use for solids that may become liquid during transport, something that will be referred back to the UN experts. ICAO was also too quick to adopt the new classification criteria for environmentally hazardous substances and has agreed to postpone these provisions until the other modes catch up. Clarification will be offered on the requirements for absorbent material (which, when required, must be in a sufficient quantity to absorb the entire contents) and secondary means of closure (which applies only to the inners of combination packagings and not to single packagings).

Operators have a number of new issues to be concerned with, including:

(a) inconsistent terminology for 'compartment', 'hold', 'bay' etc;

(b) the reporting of forbidden dangerous goods in crew baggage;

(c) the carriage of cryogenic liquids, which Boeing recommends should be loaded near outflow valves;

(d) allowing small cylinders of Division 2.2 gases for applications other than life jackets;

(e) extension of the occurrence reporting requirement to cover mis-loading and failure to produce the notice to commander (NOTOC); and

(f) ensuring that labels and markings are not obscured during transport.

Geoff also spoke at some length about the regulation of lithium batteries in air transport. Ultimately, he said, the UK position is that the regulations are adequate as they stand; all the incidents reported to date have involved non-compliant packages.

Around the rim

Many of the delegates to the COSTHA forum are well accustomed to doing business outside of the US, but mainly with the rest of North America and Europe. Each year, though, one of the most keenly anticipated presentations deals with Asia. This year it was the turn of **Sam Rogers**, manager of marine operations and security for China Shipping (NA) Agency Co and someone with a wide knowledge of the restrictions on hazardous materials in many parts of Asia.

In most of the region, Sam began, the globally harmonised system of classification and labelling of chemicals (GHS) is due to be implemented some time during 2012. That means that land transport regulations will be getting increasingly harmonised. Elsewhere the IMDG Code and ICAO Technical Instructions ensure alignment of international sea and air provisions. However, there are exceptions. Sam took delegates on a tour of the region, explaining along the way the problems vessel operators have in ensuring that they remain in compliance with the relevant local regulations.

In Japan, for instance, the latest Amendment 35-10 to the IMDG Code was implemented on January 1, 2011, except for the new Limited Quantity marking and UN Nos 3171 (battery-powered vehicles) and 3496 (nickel metal hydride batteries). This is given effect by the Regulations for the Carriage and Storage of Dangerous Goods by Sea, which is the responsibility of the Ministry of Land, Infrastructure, Transport and Tourism.

In addition, shippers need to be aware of the Act on Port Regulations, regulated by the Japanese Coast Guard. These include some general restrictions; for instance, explosives can only be handled during daylight hours; radioactives can only be handled with competent authority approval; all dangerous goods are to be delivered to the consignee immediately, with no dwell time in the port area allowed; and the only batteries currently regarded as dangerous goods are those containing potassium hydroxide.

In South Korea, 23 Articles of the Ship Safety Act govern the transport of dangerous goods and incorporate the UN model regulations, the IMDG Code and the International Convention for the Safety of Life at Sea (Solas) as it relates to ship construction. However, each of the major ports has its own set of dangerous goods restrictions, and individual container terminals may also apply their own requirements.

Even Sam's office finds it difficult to get firm information on regulations and restrictions in China. The IMDG Code is adopted in its entirety, which at least provides a basis, but then there is the Act of Safety Supervision of Ships Carrying Dangerous Goods, which covers groupage cargo, the Rules on Dangerous Goods Declaration for Ships Carrying Foreign Trade Cargo of the People's Republic of China, and the Act on the Management of Dangerous Goods in Ports of the People's Republic of China.

However, as in South Korea, most of the ports and some terminals have their own restrictions. Sam gave as an example the Shanghai Waigaoqiao terminals: here goods of Classes 1, 2, 4.2, 4.3, 5.1, 5.2, 6.1 and 7, as well as all hazardous materials in reefer boxes, must be discharged directly from the ship to truck; those of Division 3.1 and 3.2 are allowed a dwell time of up to 24 hours and most others up to 72 hours. Cargo handling involving goods of Classes 1, 2 and 7 are only permitted during daylight hours. There are, moreover, complex restrictions on the number of containers with goods of each hazard class that are allowed per vessel, ranging from 10 TEU of Division 5.2 or Class 7, through 30 TEU of Class 2 or Division 5.1, up to 150 TEU of Division 1.4 and an unlimited number of Class 9 boxes. There are further restrictions on inland transport – for instance, some 179 products, mostly toxics, are forbidden from transport on the Yangtse River.

The Hong Kong Special Administrative Region has applied the IMDG Code since the mid-1980s and has kept up to date with successive amendments. Further restrictions include a ban on all products assigned to Special Provision 900; this covers all Hong Kong waters and applies equally to goods that are not being discharged in Hong Kong.

The IMDG Code is incorporated into local law through the Dangerous Goods Ordinance, Chapter 295. However, Hong Kong has its own system of categorising dangerous goods, which differs somewhat from the UN model. In addition, local terminals each have their own restrictions.

Further on around the rim

Taiwan is also up to date with the IMDG Code. Again, though, the country's four main ports have their own restrictions. All dangerous goods cargo imported into Taiwan must have customs permission from the importing company, and haulage companies have to have road transport permission for dangerous goods.

Sam's review of the region took in other emerging economies, which was also of great interest to delegates. Vietnam is a little behind other nations in the region: its Maritime Code dates only from 2005 and it has not yet fully adopted the IMDG Code, although this is planned for 2012. Ports and terminals have their own restrictions. For instance, Saigon will not accept dangerous goods of Classes 1 or 7; bulk cargoes of Classes 2.1, 2.3, 3.1, 5.2, 6.1 and 6.2 may not be stored in warehouses within the port. Vietnam International Container Terminal (VICT) in Ho Chi Minh City requires pre-arrival notification of dangerous goods three days ahead, and will only allow handling of Classes 1, 7 and 6.2 if the goods are loaded directly for onward transport.

Thailand seems unusual in that it not only applies the IMDG Code universally but also the Port Authority of Thailand prescribes common port restrictions across the country. Explosives and radioactives are prohibited and a specific list including some or all of the UN entries under Classes 2.3, 3.1, 3.2, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2 and 8 must be subject to immediate shipside delivery.

Malaysia has adopted Solas but its regulations regarding the transport of dangerous goods by sea and in port are governed by the Merchant Shipping Ordinance of 1952, which uses some archaic language and is far from harmonised with UN provisions.

Singapore's Maritime and Port Authority (Dangerous Goods, Petroleum and Explosives) Regulations became effective in January 2005 and replaced the old grouping system used by the Maritime and Port Authority (MPA) with the UN classes and numbers. Port restrictions are harmonised and regulated through a series of Port Marine Circulars. The Port of Singapore Authority (PSA) places time limits on dangerous goods in terminals.

Sam concluded his tour in the Philippines, where the IMDG Code is fully implemented. Ships carrying dangerous goods are required to have a special permit, which is valid for one year, and to carry a Dangerous Cargo Manifest, which must be provided to the Safety Officer at the arrival terminal 24 hours ahead of arrival. Terminals require handling permits for all dangerous goods and such permits can be invalidated in the event of non-compliance with safety instructions. Significant fines and legal sanctions can be applied for such breaches.

Calm down now

The second day of the conference kicked off as usual with the legal and legislative briefing from **Rick Schweitzer**, COSTHA's Association Counsel. He was somewhat calmer than he had been at the 2010 event, when PHMSA was in the throes of its sudden restructuring. Some significant operational changes have also taken place as a result of that restructuring, Rick noted.

Perhaps most importantly for US shippers, a new standard operational procedure (SOP) for the issuance of special permits was instigated in October 2009. This "kinda came out of the blue," said Rick, as a result of Congressional pressure to address what were seen as failings in the system: a lack of modal coordination, special permits being issued to companies with serious compliance issues, and so on. There is now a requirement for greater modal coordination among the DOT agencies, which makes sense.

As a result, an applicant's safety fitness evaluation will depend to a large extent on a review by the various relevant modal administrations. A poor out-of-service record will not necessarily mean denial of an application, but will trigger investigation in more depth.

The new SOP has been codified through the HM-233B rulemaking, which was issued as a final rule on January 5, 2011 (**HCB** January 2011, page 21) and took effect on March 7. All new special permit applications and renewal applications must include:

(a) the name of the CEO;
(b) a contact person;
(c) the company's DUNS identification number; and
(d) details of all of the location where the special permit is to be used.

There is, though, no requirement to update this information, which Rick said is something of a grey area, particularly regarding the identification of the different locations. Applicants will also have to estimate how many times the special permit is to be used.

The new SOP allows for facility inspections by DOT personnel; most if not all applications for air transport special permits will involve some measure of inspection, Rick suggested.

All of this is going to lead to inevitable delays, Rick said. It will be important to file renewal applications in good time – at least 60 days prior to expiry. PHMSA has said that as long as the 60 day notice is observed, then permit holders will be allowed to continue to use their existing special permit while the renewal application is being considered.

PHMSA's 2012 budget proposal includes 38 new staff positions, of which 30 will be for special permit and approval application evaluation. PHMSA is also planning to introduce 'user fees' for the special permits and approvals programme, with fees of $3,000 for new special permit applications, $1,000 for special permit renewals and $500 to $800 for approvals applications.

However, Rick noted, in these times of austerity Congress "may not be in the mood" to authorise this additional budget request. As he pointed out, PHMSA cannot point to a poor safety record as justification for the additional enforcement activity.

Another important change to the special permits programme is that trade associations are no longer allowed to hold special permits on behalf of their members. This does make sense in terms of the programme, Rick said: PHMSA needs to be able to ensure the fitness of each holder of a special permit. However, PHMSA has also denied a number of special permit renewals where a parent company hold the permit on behalf of operating subsidiaries. This step is being reassessed in light of the administrative burden being imposed by each subsidiary having to file an application separately.

Us and them

HM-233B has been heavily criticised by industry. COSTHA has filed an appeal, on the basis that comments on proposals were not adequately considered and especially that the additional requirements will impose an additional financial burden on industry with no significant safety benefit. There is also the question of inconsistent enforcement in the event that permit holders fail to update the details of their locations. Overall, the feeling is that the rulemaking is "a solution in search of a problem".

In addition, the Interested Parties Group, of which COSTHA is a participating member, petitioned PHMSA in 2010 for a rulemaking on safety fitness criteria, as it believes the current fitness standards are subjective and undefined. PHMSA seems to want to keep some flexibility in the system but industry would like to be clear on the factors that will be taken into account when a safety fitness determination is carried out. There is an argument about whether the changes to the safety fitness assessment methods are substantial enough to warrant a notice and comment period as required by the Administrative Procedures

Act or whether they are, as PHMSA maintains, merely procedural.

PHMSA has not gone through a process to determine if its criteria are evaluated for effectiveness or validated, Rick said. The process is not normalised for the size of each applicant. The Federal Motor Carrier Safety Administration (FMCSA), which has a similar process in place, did go through an evaluation and validation phase. The fact that PHMSA is reluctant to do so seems at odds with its stated aim of being "transparent and accountable".

Rick also addressed the 'enhanced enforcement' rulemaking, which was issued as a final rule this past March 2 (**HCB** April 2011, page 15). This began as a sensible approach to the problem of non-compliant dangerous goods discovered in the transport chain, but has grown into something much more extensive. It allows DOT agents to issue out-of-service orders or remove packages or entire consignments from the transport chain.

The American Trucking Associations (ATA) has filed an appeal, saying the rulemaking will impose significant additional costs on industry in the event that a shipment is diverted – and those costs will fall on the carrier, not the shipper responsible for the non-compliance. ATA is suggesting that the enforcement agency should take possession of the offending package rather than diverting the vehicle.

ATA also wants clarification on the responsibility for closing any package opened by a DOT agent for inspection. Who is liable?

Going a little more high level, Rick finished with news that the Surface Transportation Bill is possible in the summer; this is likely to include the Hazardous Materials Transportation Act reauthorisation. If the Bill does not pass before September, it is likely to be overtaken by the run-up to the 2012 presidential election.

View from the modes

One other important element of the COSTHA conference is the modal update and enforcement briefing. With a lot going on back in Washington, DC at the time of the event, two of the modal representatives had to phone in their presentations, but those who did attend more than made up for their absence.

The maritime update was provided by Commander **Michael Rolden** of the US Coast Guard (USCG), who immediately ingratiated himself with the audience by saying how good it felt to get out of Washington and meet the industry.

Michael offered a brief update on some of the major changes appearing in Amendment 35-10 to the IMDG Code, which this time around has been printed in such a way that users can easily track where changes have been made. One very big change is the new limited quantity mark, which is being adopted by all the modal bodies.

Nickel metal hydride batteries (NiMH) have been added to the Dangerous Goods List under UN 3496, with special provision SP 963 providing details on the quantities allowed and packaging requirements. Vehicles and equipment with internal combustion engines have been reintroduced into the Code, under UN 3166 and 3171, with two special provisions, SP 961 and 962. A new Chapter 5.5 now offers guidance and consolidates the special provisions applicable to fumigated cargo transport units.

Michael introduced some of the issues that are being discussed for inclusion in the next amendment (36-12) to the IMDG Code. These will include more on NiMH batteries and de minimis quantities. The Dangerous Goods, Solid Cargoes and Containers (DSC) Sub-committee will meet in September, with the aim of finalising the changes.

Michael also offered some resources for industry, particularly USCG's website pages.

The Marine Safety section is at www.uscg.mil/MarineSafetyProgram/marinesafety.asp and the 'Homeport' page is at http://homeport.uscg.mil/mycg/portal/ep/home.do.

Michael concluded with an appeal for help. There has been a lot of talk recently at the International Maritime Organisation (IMO) about the problem of overweight containers. Outbound containers from the US should be ok, he said, but inbound boxes are not being checked. IMO is considering what requirements, if any, it can introduce and USCG is keen to hear from industry with any ideas.

Also present in Scottsdale – and in a very big way – was **Billy Hines**, chief of the south-west region for PHMSA. He thanked industry for its patience and support during the recent reorganisation.

"We have a lot of stuff to do," Billy said, explaining that the Administration's remit is more extensive than inspection and investigation. The agency concentrates on "those people who aren't here" – those who don't take the job of moving hazardous materials seriously.

Billy also highlighted the three free seminars PHMSA was planning to hold during the summer months, to educate industry in the hazmat regulations. Senior personnel, including Magdy El Sibaie and Cynthia Quaterman, were due to be in attendance. More information is available on the PHMSA website, www.phmsa.dot.gov.

Fine and dandy

PHMSA's field operations have an important role in feeding information back to Washington to help the regulatory process, Billy explained. However, in the last couple of years the extent of field operations has shrunk as a significant number of agents have been redeployed to help with the special permits and approvals process.

Industry should not be scared of a visit from the PHMSA inspector, Billy insisted. "We're not out there to fine you – we're out there to improve safety," he said. PHMSA does, however, find the same issues keep cropping up: training, classification, packaging, documentation and so on. "If you've got these covered, you should be fine," he assured the audience.

PHMSA's priority now is to recruit more expertise in the packaging field, an area where it is lacking. It will also be pursuing the new special permits and approvals fitness inspections and carrying out thorough safety inspections on shippers and carriers that show a poor level of safety compliance.

FMCSA's activities were described by phone by **John Hardridge**, hazmat transportation specialist at the Administration's Office of Enforcement and Compliance. He reported that 1,424 two-year and temporary Hazardous Materials Safety Permits (HMSPs) had been issued as of January 31, 2011; 15 had expired, 15 had been suspended, there were 154 applications pending, and 510 had been denied. The supporting data has been cleaned up so that the approval or denial of an application for an HMSP is now more accurate. There is also now a simpler process by which shippers can check on the validity of a motor carrier's HMSP.

FMCSA is also progressing the changeover from SafeStat to the Compliance, Safety and Accountability (CSA) system. The Carrier Safety Measurement System (CSMS) was implemented this past December and the Behavioural Analysis Safety Improvement Categories (BASICs) are being rolled out. These changes will give FMCSA more enforcement tools than SafeStat and will also generate more accurate data.

John looked at a few recent rulemakings that will impact the hazmat sector; these cover hours of service for drivers, the use of electronic onboard recorders, and railroad grade crossing. FMCSA is also going to continue to carry out security reviews, as in the past, although the Transportation Security Administration (TSA) has agreed to cease carrying out corporate security reviews.

Wrapping up

The final modal report came from **Bill Schoonover**, staff director in the Office of Safety Enforcement, Federal Railroad Administration (FRA), who also called in from DC. His office is currently focusing very much on reducing the number of non-accidental releases, which has been consistently around 700 per year since 2004 and shows no sign of responding to existing safety provisions. Bill believes it is necessary to address the human element and maintenance issues.

FRA was planning to hold a seminar in Reno, Nevada in June to look specifically at non-accidental releases. It was to focus on loaders and unloaders and offer industry a set of best practices. FRA plans to use reports to the National Response Center (NRC) to help focus on the worst offenders and will consider regulatory changes if they are deemed necessary.

Other developments at FRA include attempts to collect better information on tank car behaviour during accidents, focusing on those cars that survive. FRA also issued a notice of proposed rulemaking on the use of breathing apparatus on trains carrying toxic inhalation hazard products back in October 2010; the agency is currently considering the comments it received.

The conference sessions were concluded with closing remarks from **Peter Mackay**, editor of the **Bulletin**. He voiced his concerns that the issue of hazardous materials transport is becoming politicised in Washington, when hazmat safety must be a non-partisan target.

Peter noted that Transport Canada was finding it difficult to get funding for its dangerous goods programmes and reminded the audience of Rick Schweitzer's comments about PHMSA's likelihood of achieving its budget increase. Both agencies are also struggling to find good personnel to replace those that have retired or been sidelined in reorganisations. Much the same can be said of many of the companies represented in the audience, Peter suggested.

The Canadian dangerous goods regulations are only 25 years old – that's about one generation. Those responsible for setting up the rules are now in the process of passing the baton on to the next generation, as are the US DOT agencies and – again – companies involved in the hazardous materials transport chain. "Everyone here has a role in passing on that baton, and passing on the knowledge we've gained over the past 25 years," Peter said.

He also urged all those not retiring over the next 12 months to plan on joining COSTHA's 2012 annual forum, which will take place in Savannah, Georgia from April 22-25. More information can be found at www.costha.com.

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