



Delegates from around the world enjoyed the opportunity to head for the warmth of Florida for this year's COSTHA annual meeting

# Fun in the sun

**CONFERENCE REPORT** COSTHA's annual forum, always a highlight of the calendar for the US hazmat professional, had a different feel this year, despite returning once more to Florida. Some new faces in the audience and on the podium probably had something to do with it

This year's annual forum of the Council on Safe Transportation of Hazardous Articles (COSTHA), which took place in St Petersburg, Florida from April 25 to 28, drew a decent crowd of 220 souls. It is to the organisers' credit that almost 30 per cent of these were first-time attendees; as the old guard gets older and moves into retirement, one of the crucial elements in continuing the good safety work that has been done by industry bodies and regulators alike over the past 20 years will be in reaching out to their replacements and COSTHA did very well in attracting that younger crowd.

COSTHA's administrators are also very good at picking locations for the event that will help encourage attendance. St Petersburg – 'Sunshine City' – holds the world record for the most consecutive days of sunshine, at 768, and there were plenty of visitors from the chilly north (and Europe) who perhaps felt as though they had not seen the sun for about that length of time. There was some sunshine in the business outlook too; opening the conference, COSTHA president **Bob Heinrich** said: "We've been living in a lean

and mean economy for a while – but it looks like things are changing."

Delegates were put into a frame of mind to be ready to work by a lively presentation from trainer **Steve Laughlin**, who reported on some of the 'redneck shippers' he has to deal with. He was followed by "that new guy", **Tom Ferguson**, COSTHA's technical consultant, who gave a briefing on what is going on at UN level as regards dangerous goods. Or, as he put it: "What is going on at the UN that you should care about enough to stay in the room even though we are getting close to break and there are some goodies in the exhibitors' area".

Seeing as there were so many new faces in the audience, Tom's primer on the role of the UN was useful. He described the schedule of meetings of the UN Sub-committees and the way that the UN model regulations end up being transposed into modal and national regulations. COSTHA participates at these meetings as an observer and can also participate in ad hoc working groups set up to examine particular issues, many of which are relevant to its members. Being involved in

the process makes it easier for COSTHA to be able to report back on what is coming along the regulatory highway.

## Coming to a rule near you

Tom moved on to look in more detail at the 2009-2010 agenda of the UN Sub-committee of experts on the transport of dangerous goods (TDG). Among the hot topics to have been debated recently was the US proposal to include provisions for the transport of 'de minimis' quantities of dangerous goods. COSTHA provided support and data for the proposal, which resulted in the adoption of new provisions as a sub-section of Chapter 3.5 on excepted quantities. "Several different industries will be able to take advantage," Tom said.

Also on the agenda has been work to revise the classification of corrosives, partly to align more closely with the Globally Harmonised System of classification and labelling of chemicals (GHS). Several proposals are still on the table but some delegations have severe reservations about some of the solutions put forward. Work has also been

continuing on the thorny issue of the transport of lithium batteries and a working group has been reviewing the classification criteria. There will be a significant change in the way the regulations deal with such articles, particularly large-format batteries, as well as amendments to the testing requirements and possible changes to packing instructions and special provisions.

The TDG Sub-committee has also been looking at a Russian proposal to permit the transport of certain dangerous goods in flexible bulk containers, which may result in the development of a 'BK3' assignment. The treatment of fuels in machinery has also come under the spotlight, again with some very differing views. The current biennium still has two meetings to go before the 17th revised edition of the UN model regulations is finalised, but the experts are already lining up the subjects that will be dealt with during the 2011-2012 biennium. These look likely to include toxicity testing, a generic approach to energy storage systems, and other emerging technologies.

Tom had already explained that decisions made by the UN experts generally get applied at the sharp end of operations two or three years

later. Industry can get involved in the rulemaking process even at the UN level, though, through its participation in groups such as COSTHA and through public consultations held by the Pipeline and Hazardous Materials Safety Administration (PHMSA) and other federal agencies.

After a break for coffee and a look around the exhibition area, delegates returned to an explosive presentation from **Thomas Goedecke** of Germany's Federal Institute for Materials Research and Testing (BAM). He described the developments of BAM and the facilities the Institute has available in the woods outside Berlin. This is where tanks, cylinders and nuclear flasks are tested for their ability to withstand impacts and fires. Thomas showed some video clips of tests, which kept the audience glued to the screens as they watched a series of explosions. The capacity for dangerous goods to cause massive damage was clear.

Shippers of dangerous goods generally understand the hazards they are dealing with but, said **Nancy E Walsh** of 3M's materials EHS section, they should also understand the issue of business ethics in dangerous goods transport. In what was a thought-provoking presentation, Nancy drew on other strands, including the need

to promote excellence and recognise expertise in the hazmat workplace.

#### How to be good

There is a range of stakeholders involved in any company's activities but, legally speaking, the interests of the shareholders come first and foremost. Nancy quoted Milton Friedman: "There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits." What this means is that any short-term costs involved in applying ethical behaviour to an organisation may well be sufficient to make such an approach untenable.

Companies involved in the dangerous goods supply chain are, however, already some way into an ethical business model, since they have to take responsibility over the goods they ship or handle and the effects those goods may have on the public at large, employees, the environment or other stakeholders. This ethical responsibility is defined to some extent by the regulations that have to be met. However, Nancy said: "It's not enough to have a compliance culture." Just trying to meet the legal responsibility imposed by regulations opens an organisation up to the

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COSTHA provides a marketplace for hazmat-related products and services

possibility that it will sometimes fail to achieve the necessary standards.

There are, though, no laws to require an ethical business culture, even if in the US there is an element in the federal sentencing guidelines that will reflect a company's attitude towards business ethics in the event that there is a prosecution. Moreover, multinational companies will face different attitudes in the different countries in which they operate.

However, while there are going to be short-term costs in applying ethical business standards, there is a potential payout in the longer term. And the very act of asking how to move forward is in itself a positive step, Nancy said, encouragingly. An obvious starting point is to question information: for instance, how do you know that the safety data sheet (SDS) your supplier provides is accurate? The ethical business may well take it upon itself to carry out its own tests. Part of the ethical approach is to seek out and verify information, not just to accept what is provided. Companies may well be able to sniff out potential bad information on the basis of how their business partners conduct themselves in other areas.

Nancy's message, in a nutshell, was this: ethical business conduct sometimes requires more than just strict compliance with legal obligations. "When you are confronted with such situations," she said, "you need to make a good, ethical decision that will reflect well on your company and you."

Within 3M, this approach works like so:

- (a) is the action consistent with the corporate values of uncompromising honesty and integrity?
- (b) can the action withstand public scrutiny? ("What would mom say?") and
- (c) will the action protect the reputation of an

ethical company?

But there is more to ethics than principles and procedures. It calls for the promotion of excellence and the recognition of the abilities and knowledge that employees have, and giving them the responsibility to discharge their duties in line with the ethical policy. A person of character with the correct motivations is most likely to make the right ethical decision, Nancy said. This applies particularly well to the hazmat professional, she noted, picking some quotes from COSTHA's work on recognising professionalism in the sector. Such people are likely to have knowledge and skills "vital to the well-being of the larger society"; within their own organisation they may well have a monopoly or near-monopoly on the provision of professional services; they can have an "unusual degree of autonomy" in the workplace; and they may be regulated by a professional code of ethics.

Nancy urged the audience to take cognisance of these factors and to be comfortable with the ethical position. Hazmat professionals in the audience should be able to feel confident that their greater knowledge puts them in a role where they can be required to make decisions on an ethical basis and need to be sensitive to such situations as they arise. "Muster the moral courage to do what is right," she demanded. "Raise the bar on your profession by living the virtuous life in the corporate world!"

Delegates were swiftly brought back to earth by the next speaker, **Amy Shepherd** of Procter & Gamble, who gave an update on GHS and its implementation. Some background was felt useful: GHS dates back to the Rio Earth Summit in 1992 and was originally expected to be in place and available for use by 2000. Clearly that deadline slipped a bit but the rescheduled

implementation, set for 2008, has been met only by New Zealand. Its aim is to provide a structure for harmonised hazard communication that can be used as an input to risk management systems to deliver greater safety in the use of chemicals. It does, though, have some implications for the transport sector.

GHS aims to bring global consistency to chemical classification and communication – something that Amy said was "a tall order". It uses a building-block approach so that different industries and national legislators can pick the criteria that are appropriate to their needs, while retaining a consistent set of cut-off levels. SDSs and warning labels will be standardised, as will any danger and warning phrases used on the label.

In the US, the Occupational Safety & Health Administration (OSHA) issued a notice of proposed rulemaking (NPRM) on September 30, 2009, setting out its proposals for the national implementation of GHS in domestic legislation. It wants to minimise country-specific deviations from the international provisions, which will necessitate a major overhaul of the risk management approach in the US from performance-based to hazard-based. The proposal includes the idea of a new definition for 'unclassified hazards' such as combustible dust and 'simple asphyxiants' (e.g. nitrogen). Appendices to the legislation will help operators manage the hazards involved in their operations.

An area of major concern for those involved in hazardous materials transport is that OSHA is proposing to revise the flashpoint and boiling point criteria for flammable liquids and to remove the term 'combustible liquid'. This could certainly cause confusion for those working with any products that are affected by the change as well as emergency responders; the National Fire Protection Association (NFPA) has cautioned against the change.

Looking around the world, GHS does seem to have been adopted and implemented most rapidly in Asia. Japan introduced a system of hazardous classification for 150 chemicals in 2007 but this is not mandatory, and several other countries in the region have been pushing the process forward. In the US the workplace legislation based on OSHA's proposals is unlikely to become law until mid-2011 at the very earliest, with staggered phase-in periods. The EU has new label requirements for substances (not mixtures) that take effect in December 2010 but, as with the US, full implementation of the GHS provisions will not happen until 2015.

Perhaps the most eagerly awaited presentation came from **Cynthia Quarterman**, recently appointed as PHMSA Administrator. Given all the changes at the agency over the previous six

months, delegates hoped for some explanation and some reassurance that they would still be able to work effectively with Washington, something that the House investigation into PHMSA's activities had thrown into doubt.

During the course of her tightly scripted speech, Cynthia did say many things that the audience wanted to hear: she acknowledged that it is a time of great change and that day-to-day operations have changed markedly. PHMSA's commitment to international regulatory activities "has not diminished in the least" and it is taking on a large number of extra staff to help it clear the backlog of work that has built up in recent years. As from May 1, a new online system for applying for special permits and approvals would go live, helping users to track the passage of their applications through the agency.

### Stay on message

On the other hand, much of what she said cast doubt on the deliverability of those promises. PHMSA is putting in place new systems and operational procedures to ensure that its processes are transparent, she said, although there were plenty in the audience who found the old system – and especially the availability of senior personnel to discuss technical matters – very effective. PHMSA is taking on new staff, but many will be going into enforcement and others will be working through the backlog of special permit and approval applications rather than helping industry deal with its regulatory obligations.

Cynthia did express her concern, however, at the number of senior personnel who are coming up for retirement. This is a problem for PHMSA just as it is for industry and the agency is putting some HR strategies in place to help ensure an effective succession.

PHMSA also has a new set of priorities. Describing its existing data collection and analysis system as "a liability", Cynthia said it is moving quickly towards implementation of 21st century IT systems. One area of contention was the issue of wetlines – the piping under the barrels of tank trucks – which had been brought to PHMSA's attention some years ago. Analysis of its existing data showed that there had been so few incidents involving wetlines that there was little to be gained from new regulation; under the new administration that same data has been used to show that, in fact, there is a major problem and something must be done. Indeed, a notice of proposed rulemaking (NPRM) is promised later this year.

Another area to be subject to an NPRM will be the loading and unloading of bulk packagings; this has been on the cards for some time so is not a shock to the system. Lithium batteries

are also on the agenda. PHMSA has embarked on a major project to review all existing special permits and, where appropriate, incorporate them into the Hazardous Materials Regulations (HMR).

This is one area where the new administration's approach does not seem to add up. On the one hand Cynthia pledged to continue efforts to remain in step with international regulations; on the other, HMR will be amended to take account of long-standing special permits, which will create further divergence between the international provisions and HMR. The removal of some senior personnel within PHMSA during last year's witch hunt has further damaged the US's international position, since one of those to depart was chairman of the UN Sub-committee of experts on TDG, and has made the succession problem even harder.

Cynthia came to a hasty conclusion with the exhortation to the audience to develop a new safety culture. This comment, which was addressed to a group of committed professionals for whom safety is at the very top of their daily list of tasks, went down badly and suggested that the new Administrator fails to understand the nature of the industry she is now empowered to regulate. And, unlike her predecessors, who were generally quite happy to stay around for a while and speak to the regulated industry, Cynthia high-tailed it promptly back to Washington, leaving the conference to get back to the business in hand.

### Going international

After lunch, where various tables were themed so that those with an interest in, say, cosmetics or automotive logistics could share their concerns, the conference embarked on its usual international briefing. The day's second German speaker, **Volker Krampe** from Beiersdorf AG, reported what has been happening in Geneva as far as the European road regulations – ADR – are concerned. He started by explaining the structure and role of the UN Economic Commission for Europe, one of whose working parties is responsible for keeping ADR up to date, and reassured the audience that the North American countries do have a say in what goes into the regulations.

When exporting to Europe, multimodal shipments can take advantage of a provision at 1.1.4.2 in ADR, allowing them to travel by road to their first destination while packaged, marked and documented in accordance with the international provisions for air and sea transport. But there are some common problems found with import consignments into Europe, particularly regarding the tunnel codes, the lack of any definition for 'import/export' and the

need to have shipping documents in a particular language or languages. ADR does not recognise consumer commodities, which is always a problem for US shippers, but there are some exceptions provided in Special Provision 601 for certain goods.

One of the most important changes in ADR for 2011 is the adoption of the new markings for limited quantities. The new limited quantity marking is designed to bring harmonisation to the various modal regulations and even to cope with the specific needs of the aviation sector. ADR has also agreed that the minimum dimension for the label will be 50 mm x 50 mm, to cope with smaller packages. ADR will no longer have LQ codes and in terms of inner packagings will be fully harmonised with the UN provisions.

The explanation of the limited quantity provisions in ADR will also change from 2011. Instead of finding a mention of disapplication in Section 3.4.5, the instructions will move to 3.4.1 (as in the UN model regulations) and provide a positive list of those provisions that still apply. This will make it easier to train, Volker said. There will, though, be one major hitch: the ADR experts have inserted a four-year transitional provision, so that shipments of limited quantities of hazardous materials as defined by the quantity limits in the 2009 edition of ADR, and in compliance with the packaging, labelling and documentation requirements of that edition, will still be permitted for transport in ADR states until June 30, 2015. However, the quantity limits currently shown in column (7a) of the Dangerous Goods List in ADR will no longer appear after 2011. Confusion seems inevitable, not least for enforcement personnel.

ADR is also aligning with the UN model regulations as far as the new 'dead fish and tree' symbol for environmentally hazardous substances is concerned. Under the 2009 edition of ADR, the mark needs only to be applied to packagings carrying goods classified under UN 3077 and 3082; as from 2011 it will be required on packagings carrying any dangerous goods that have an environmentally hazardous risk. It is still not clear, however, how this will be required to be shown on the shipping document, Volker said.

As with Washington, Geneva has also been wrestling with the best way to regulate lithium batteries in transport. A particular problem has been experienced with small lithium batteries (such as button cells) contained in equipment. The UK initiated a multilateral special agreement to exempt such cells from the package marking provisions in special provision 188(e) and this will be incorporated into the 2011 edition of ADR.



Nancy Walsh: be ethical!

### Air and sea

Two speakers provided an update on the international modal rules. **Patrick Oppenheimer**, chairman of the International Air Transport Association's (IATA) Dangerous Goods Board (DGB), reported on recently agreed changes to the International Civil Aviation Organisation's (ICAO) Technical Instructions (TIs). The recent meeting of ICAO's Dangerous Goods Panel made a number of clarifications, and introduced the specification that any approvals must be agreed both by the competent authority of the state of origin and of the state of operator.

There is a growing volume of unaccompanied baggage on passenger aircraft and there was a lot of discussion about how to deal with the issue. Some dangerous goods are allowed in checked baggage that would otherwise be regulated; strictly speaking, any unaccompanied baggage counts as cargo and ought therefore to fall under the dangerous goods regulations. An allowance has now been made for unaccompanied baggage, specifically any excess baggage that travels separately from its owner or bags that are sent ahead of travel.

One important change is that, for the first time, dangerous goods packed in intermediate bulk containers (IBCs) will be allowed on aircraft. So far, however, this is limited to UN 3077 environmentally hazardous substances, solid, nos. It could be extended to other UN numbers, Patrick said, but many carriers are not happy with the idea.

The provisions on training have been strengthened and untrained personnel will no longer be allowed to work "under direct supervision". Training must be completed before performing any duties that require the employee to be trained.

There has been a lot of discussion about material compatibility, especially since the accident at Dubai airport in 2007 when a cylinder carrying ethyl chloride exploded. Even traces of substances that do not contribute to the hazard classification of a material being carried must be taken into consideration when assessing compatibility with the container. A general packing requirement has been inserted, stating that the packaging material must not react with or allow permeation of the material being carried, and allows for the use of suitable inner coatings where necessary.

There have been some technical changes to the provisions for magnetised materials and a large number of changes have been made to the special provisions. A few changes to the packing instructions have been made, and the new format packing instructions will be effective as of January and can be found in Appendix H. As with ADR, ICAO has adopted the new limited quantity label and markings.

Important requirements have been added to specify that closures of inner packagings must remain securely closed during transport; inner packagings for liquids must have a secondary means of closure, such as locking rings or friction sleeves. A few other changes have been made to the labelling and documentation requirements.

Patrick also explained some of the steps that have been made to address the problems that often arise from passengers bringing undeclared hazardous materials onboard passenger aircraft as carry-on baggage. More information will be provided at the point where the ticket is purchased or at the check-in. Patrick showed some examples of how airlines and airports are helping to alert the travelling public to the dangers they may be carrying.

Leaving the best till last, Patrick brought up the subject of lithium batteries. A lot of revisions have been made to the requirements but work is continuing to enhance the provisions.

There was some lively discussion on enforcement issues. Some states believe this is not a matter for ICAO but others felt some recommendations would help. It was suggested that being too strict on compliance may encourage shippers to avoid declaring dangerous goods altogether. Better reporting of incidents is also warranted. But enforcement should be a risk-based activity and the adoption of recommendations by ICAO could do a lot to improve the situation regarded unjustified rejections, which is another cause of undeclared cargo.

### Catch the tide

Commander **Michael Roldan** of the US Coast Guard's (USCG) Hazardous Materials Standards Division reported on recently adopted amendments to the International Maritime

Dangerous Goods (IMDG) Code; Amendment 35-10 will be published in autumn 2010 for entry into force on January 1, 2011 and it will become mandatory on January 1, 2012.

The major changes include revisions to the classification of mixtures and solutions, provisions relating to radioactive materials and toxic by inhalation materials, the re-entry into the Dangerous Goods List of UN 3166 and 3171, the limited quantity provisions and the use of electronic shipping papers. Furthermore, a new Chapter 5.5 addresses fumigated cargo transport units. Notably, Amendment 35-10 does not adopt the revised criteria on environmentally hazardous substances from GHS; this will have to work its way through other conventions at IMO and will only be able to be reflected in the IMDG Code as from 2013.

At its 14th meeting, the IMO's Dangerous Goods, Solid Cargoes and Containers (DSC) Sub-committee also discussed the May 2005 incident aboard the containership *Punjab Senator*, when a container packed with nickel metal hydride batteries exploded while en route to Sri Lanka. As a result, a new entry was included in the Dangerous Goods List under UN 3496, assigned to special provision 963.

The Sub-committee continued its review of the guidelines for the packing of cargo transport units, which appear in the Supplement to the IMDG Code. At the moment the guidelines are jointly owned by IMO, the International Labour Organisation (ILO) and the UN ECE but IMO is trying to take over sole responsibility so that they can be more routinely updated. There will be no update in Amendment 35-10, for instance. DSC also cautions that, where provisions in the guidelines cause conflict with the provisions of the Code itself, the Code should always prevail.

DSC has set up two correspondence groups. One is looking at a thorough revision of Part 7 of the IMDG Code and is currently into its second round of comments. The second group is revising the recommendations on enclosed space entry. Both may result in changes to the IMDG Code and its Supplement in Amendment 36-12.

IMO's Maritime Safety Committee (MSC) was due to meet in May. Alongside confirmation of the changes to the IMDG Code, its agenda covered amendments to the guidelines for securing road vehicles on ro-ro vessels, amendments to the International Convention for Safe Containers, and revised circular on the use of pesticides on ships and a proposed amendment to the International Convention on the Safety of Life at Sea (SOLAS) to mandate enclosed space entry and rescue drills.

*The second part of this two-part report in next month's Bulletin will cover papers dealing with US domestic regulation, US legislation and enforcement activities.*