# Risks of lithium-ion batteries in logistics

Christopher Chatfield, of Kennedys, reviews the regulations and cases related to the carriage of lithium-ion batteries

A series of high-profile casualties involving electronic cars and other cargo containing lithium-ion batteries have led to the logistics and supply chain industry and their insurers turning their attention to the dangers of fire and explosion posed by these batteries. In September 2023 IUMI published its "Best practice & recommendations for the safe carriage of electric vehicles" in response to safety concerns.

While the relevant carriage regulations (such as the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the IMDG Code and IATA's Dangerous Goods Regulation) address lithium-ion batteries, they tend to operate as something of a blunt instrument. As the technology behind the batteries develops, the dangers posed by different types of battery have evolved. Some are designed to hold higher charge or to last longer, while others are designed with safety in mind. As such, some pose much greater risks than others.

Where lithium-ion batteries are stored or carried on their own, the logistics and insurance industries often recognise the risks and the need to comply with dangerous goods regulations where applicable. However, many electronic items contain lithium-ion batteries, such as telephones, laptops and e-vapes, and carriage of these items will often involve considerable quantities - although parties within the logistics industry seem to be far less aware of either the dangers posed, or the application of the relevant regulations.

The storage of batteries falls outside international carriage regulations (although it might be subject to local regulations given the dangers). However, it often involves a considerable accumulation of batteries in close proximity. Thus, the risks posed to the storage facility and the local environment can be considerable.

As some lithium-ion batteries become safer and their use expands, it is important to review the regulations so that they strike the right balance between safety and allowing the supply chain to operate efficiently.

It is not just the regulations which will need regular review. Most forwarders, carriers, warehouse keepers and others in the logistics industry will trade subject to standard trading terms which will impose several conditions into the relevant contract which address the question of dangerous goods.

These terms typically require the customer to provide the logistics provider with the information and documentation needed to safely deal with the goods in question. The standard terms also often allow the logistics provider to dispose of the goods in certain circumstances and contain a number of indemnities from the cargo owner in the event that the goods cause damage.

There is also an implied undertaking at common law that the shipper is not handing over dangerous goods to the carrier unless the shipper expressly notifies the carrier of the dangerous nature of the cargo or the carrier is (or ought to be) already aware thereof (see, for example, Bamfield v Goole and Sheffield Transport Co Ltd [1910] 2 KB 94).

This undertaking does not depend on the shipper's knowledge and is effectively a strict obligation (see Effort Shipping Co Ltd v Linden Management SA (The Giannis NK) QBD (Comm Ct) [1994] 2 Lloyd's Rep 171). Standard form contracts tend also to adopt this strict requirement so that the indemnities and other liabilities arise without the need for any negligence or knowledge on the part of the shipper.

Although the relevant regulations list goods which might be considered "dangerous", the standard form contracts concentrate on the risks posed by the goods when defining "dangerous". Typically, these clauses will consider the threat posed by the goods at the outset of the services, but also take into consideration the risk of the goods becoming dangerous throughout the course of the services.

The international conventions governing many movements address the question of dangerous goods. For example, articles 6.1(f) and 7 of the CMR Convention and article IV rule 6 of the Hague-Visby Rules require the shipper to provide the carrier with the relevant notice and information before handing over dangerous goods.

English courts tend to look at the purpose of the clause to protect the carrier from dangerous goods and will apply a broad interpretation (see Effort Shipping Co Ltd v Linden Management SA (The Giannis NK) (HL) [1998] 1 Lloyd's Rep 337).

However, where a logistics provider holds itself out as being capable of carrying, storing or handling electronic goods or

lithium-ion batteries, it might find it far more difficult to complain about the dangers posed by such goods. The undertaking not to present goods of a dangerous nature must be understood as being restricted to goods with a propensity to cause damage or injury of such a level or nature as to be different in kind from the propensity which is naturally associated with goods of that description (see The Athanasia Comninos [1990] 1 Lloyd's Rep 277).

This decision also makes it clear that the courts will be cautious about labelling cargo dangerous or safe in the abstract. Rather, it is important to consider the knowledge of the party providing the services, and the facilities available to that party to deal with the cargo.

Where goods carry with them an inherent risk or danger, the parties should exchange a material safety data sheet (MSDS), which details the risks presented by the cargo and measures to be taken during an incident. Regrettably, these documents are used without sufficient regularity in the forwarding and supply chain industry.

Even if a logistics provider holds itself out as being capable of handling electronic goods or lithium-ion batteries, it does not thereby accept that it will handle them without any restriction or limits. If the cargo owner hands over damaged or faulty goods then those may well be considered to be dangerous goods and a special notification should be made. In which case, the cargo owner's knowledge of such damage or fault is immaterial given the strict nature of the undertaking.

While an exclusion clause within a contract may be sufficient to protect a logistics provider from unexpected risks arising from the dangers of the cargo, it is unlikely to protect it from loss or damage occurring by reason of its own negligence or other failure to properly care for the goods (see Hollier v Rambler Motors (AMC) Ltd [1972] 2 QB 71.

Lithium-ion batteries are becoming so prevalent in electronic goods that there may be a point at which logistics providers should appreciate that a request to carry battery-operated goods may involve the handling of lithium-ion batteries.

If a logistics provider negligently damages lithium-ion batteries during the course of the services and this causes those batteries to become dangerous, it will struggle to rely on an exclusion of liability unless it can show that it has expressly excluded liability arising from its own negligence (see Heath Steele Mines Ltd v The Erwin Schroder [1969] 1 Lloyd's Rep 370. Most standard trading terms do not go that far as it is, commercially, a very difficult position to sell.

Although many of the contract terms demand that the cargo owner will not hand over dangerous goods without notice, logistics providers can undo such protection by their subsequent acceptance of goods. If the logistics provider knows or should have known that the goods in question contain lithium-ion batteries, yet the logistics provider nevertheless accepts those goods, it may find it difficult to rely on the contractual prohibitions when a claim arises (see Datec Electronics Holdings Ltd v United Parcels Service Ltd [2007] 2 Lloyd's Rep 114).

While the legal obligations may be set out in the contract, once a significant fire has occurred it can be very difficult to determine when and where the damage took place and who is responsible.

Initially, the burden of proof is on the cargo owner (as bailor) to show that it delivered the goods to the logistics provider (as bailee) in good order and condition, and to show that the goods were lost or damaged during the course of the services.

The logistics provider (as the party in possession of the goods at the time of the loss or damage) then must show that it either exercised reasonable skill and care in its custody of the goods, and that the loss or damage occurred in any event, or that the loss or damage would have occurred even if it had exercised reasonable skill and care.

This shift and placement of the burden of proof has been reaffirmed recently in Volcafe Ltd v Compania Sud Americana de Vapores SA [2019] 1 Lloyd's Rep 21.

Lithium-ion batteries pose a particular evidential issue in this regard. Any damage to the cells may not be immediately apparent on shipment. There is also the possibility that the cells might become damaged during the course of handling, storage or transportation. The opportunities to investigate the time and the cause of the loss are very limited once a significant fire has occurred.

Many of the standard contract terms deal with dangerous goods in broad terms. As the use of lithium-ion batteries increases and the risks posed by different types of batteries develop, cargo owners and logistics providers will need to review their contractual arrangements. General labels of "dangerous" may fail to adequately address these issues. Moreover, the general liberties and indemnities within the standard contracts may fail to consider the services which the logistics provider has agreed to perform.

Those within the logistics and supply chain industries will increasingly be expected to carry, store and handle lithium-ion batteries and products containing such batteries. To meet these challenges, both the regulations and the contract terms will need to be kept under close review. MRI