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NEWSLETTER

Transportation Regulation Developments

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Battery Regulations Challenge Drone Operators

There are a complex set of U.S. and international hazardous materials regulations that govern the transportation of both lithium ion batteries and products that contain them. As drones—more formerly known as unmanned aerial systems (UAS)—become more commercially available, potential users should be aware of the stringent transportation regulations that apply to the lithium ion batteries that power them.

These regulations address the packaging, testing, and size limitations (in Watt-hours and kilograms) of both the batteries and UAS (packed with lithium ion batteries) when transported by air. In addition, lithium ion batteries carried on the aircraft by passengers generally may not exceed 100 Watt-hours. However, slightly larger lithium ion batteries exceeding 100 Wh, but not exceeding 160 Wh, may be carried onboard the aircraft with the approval of the airline. No more than two of these slightly larger lithium ion batteries may be carried on the aircraft. And, they strictly prohibit spare lithium ion batteries from being placed in checked baggage.

An often overlooked regulatory provision in these regulations is the "UN testing" required of the lithium ion cells and batteries that are used to power UAS. There are a series of tests (*e.g.*, shock, vibration, thermal, short circuit) that must be conducted on the lithium ion cells *and* batteries *before* they are placed into transport. In addition, if a company is developing "prototype" lithium ion batteries to power a new UAS design and intends to ship the batteries or UAS with the battery installed before completing the required UN tests, shipments may be subject to a very onerous and time-consuming U.S. Department of Transportation approval process. It is not unusual for the Agency to take nine months to process an application.

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Failure to comply with these regulations can result in significant civil penalties levied against companies whose employees are found to be in violation of these regulations.

ICAO Eyes More Restrictions on Lithium Battery Transportation

The International Civil Aviation Organization (ICAO) recently held a second "Multi-Disciplinary Meeting on Lithium Battery Transport." The meeting resulted in 14 new recommendations pertaining to international air transportation of lithium ion and lithium metal batteries. They are expected to form the core of the ICAO Dangerous Goods Panel's regulatory agenda on lithium batteries over the next several years.

Among the recommendations are proposed limits on state of charge for lithium ion batteries, enhanced containers, and fire containment covers in cargo compartments and packaging performance standards. None address the transport of equipment packed with or containing lithium batteries, or the transport of lithium ion batteries as cargo on passenger aircraft. However, this does not mean ICAO will not consider additional restrictions on equipment as it pursues new restriction on lithium batteries.

The recommendations from the recent ICAO meeting will be considered by the ICAO Dangerous Goods Panel Working Group of the Whole in Rio de Janeiro the week of October 20, 2014. Any changes agreed to by ICAO in Rio and over the next 12 months are not expected to go into effect until January 1, 2017.