Seatrade Maritime Podcast Interview with Dr William Moore, Head of Loss Prevention at The American Club - Key Takeaways

EV fires at sea: harder to fight, not easier to start

As electric vehicles (EVs) continue to take a larger share of the global car market, the conversation around fire risk at sea has become louder: and, at times, more alarmist. In a recent episode of the Seatrade Maritime Podcast, Dr William Moore, Head of Loss Prevention at The American Club, cuts through the noise with a sober assessment of what's really at stake for car carriers, ro-ros and ferries.

For Moore, the starting point is understanding how lithium-ion batteries fail. He notes that thermal runaway is usually driven by a combination of physical damage, extreme temperatures and charging practices. As he puts it, "Thermal runaway comes down to mechanical, thermal and electrical abuse." Used EVs, with years of wear, variable maintenance and higher states of charge, naturally sit higher on that risk spectrum than carefully controlled, new vehicles loaded at around 30% state of charge.

Crucially, Moore stresses that EVs are not necessarily the villains of ignition that headline writers sometimes imply. Industry research shows that internal combustion engine (ICE) vehicles still dominate as the starting point for vehicle fires. "Combustion engines are roughly 20 times more likely to ignite than EVs," he notes. The real challenge with EVs is what happens after a fire starts.

Effectively fighting battery fires

Once alight, EVs can be significantly harder to deal with at sea. They demand vast quantities of water, on decks where free-surface effect and stability quickly become critical issues. Foam and CO_2 systems, long relied upon in the maritime world, are far less effective against battery fires. At the same time, any contaminated runoff carries serious environmental and crew-safety implications.

Against this backdrop, Moore repeatedly returns to two themes: early detection and ship-specific preparedness.

“Detection is the crucial part of this whole equation,” he stresses, arguing for wider use of thermal imaging, cameras and other sensors on car decks – not just for EVs, but for all high-risk spaces. Layered on top of that, he calls for rigorous, vessel-by-vessel risk assessment, realistic drill programmes, fully maintained PPE and fire pumps, and a culture of open information-sharing across owners and operators.

Formal IMO measures may not land until 2027, but Moore’s message is clear: the tools to manage EV fire risk already exist. The focus now must be on applying them intelligently, consistently and ship by ship.

Our thanks to Gary Howard, host of the Seatrade Maritime Podcast, for a thoughtful and timely conversation - and to Dr William Moore for sharing his valuable insights.

Listen in full: **“EV fires and shipping with Dr William Moore, The American Club” on the Seatrade Maritime Podcast.**

Read the full analysis here