FEDERAL CHAMBER OF AUTOMOTIVE INDUSTRIES

FCAI submission in response to:

National guideline for safe management of end-of-life lithium-ion batteries

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FEDERAL CHAMBER OF AUTOMOTIVE INDUSTRIES
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1. INTRODUCTION

The Federal Chamber of Automotive Industries (FCAI) is the peak Australian industry organisation representing over 60 global automotive brands that design, manufacture, import, and distribute passenger vehicles, light commercial vehicles, and motorcycles.

The FCAI welcomes the opportunity to provide feedback to the Victorian Environment Protection Authority, acting on behalf of the Heads of EPA Australia and New Zealand (HEPA), on the proposed *National Guideline for Safe Management of End-of-life Lithium-ion Batteries*.

We commend HEPA for leading the development of a harmonised national framework. For the automotive sector, fragmented state-by-state regulations introduce profound complexities and compliance burdens across national supply and service chains. The FCAI also welcomes the draft's crucial distinction between consumer electronics and large-format mobility batteries, alongside its deference to manufacturer-specific emergency response guides and other safety data sheets.

To ensure the final guideline is commercially and practically viable, the following submission outlines critical operational realities within the automotive retail and service network. Specifically, we highlight the necessity of aligning the classification of "damaged" batteries with established global engineering and dangerous goods standards (such as the latest SAE J2950) and accommodating the spatial constraints of urban repair networks regarding vehicle quarantine.

By anchoring these guidelines to existing international automotive protocols, we can collectively ensure safe end-of-life management without inadvertently imposing disproportionate infrastructure or reverse-logistics burdens on the Australian automotive supply chain.

2. FEEDBACK

2.1 Scope and intended audience (sections 1.1 & 1.3)

The intended audience outlined in section 1.1 omits franchised and independent service centres, as well as collision repair centres. These stakeholders are generally the first to assess an automotive battery's condition, attempt repairs, or initiate transport to a specialist, and their operational realities must be considered.

While these service centres must be acknowledged as key stakeholders, it is equally important that they are accurately categorised. The FCAI therefore recommends clarifying the terminology in section 6.4.1 which states that authorised EV dealers are "often collection points". It is critical to distinguish between a public "battery collection point" (e.g. a retail site hosting a drop-off bin for general consumer electronics) and an "automotive service centre". Franchised dealerships accept EVs for repair, warranty assessment, and the targeted reverse-logistics of specific automotive parts; they do not act as public waste aggregation facilities. Blurring these definitions risks inadvertently applying public-facing storage and containment regulations to controlled automotive service operations.

2.2 Distinguishing performance degradation from end-of-life (section 3.2.3.1)

Repair, refurbishment, remanufacturing, repurposing, and recycling are distinct activities. The document may suggest in its current wording that they occur sequentially for all batteries. Not all EV batteries can be repaired after damage; similarly, only a minority of EV batteries are likely to be repurposed for energy storage applications. Clearer definitions or a more careful wording would be beneficial to eliminate any confusion.

The document states that "At the end of their first life, EV batteries typically retain approximately 70–80% of their original energy storage capacity. If the battery is undamaged, they can be suitable for a range of secondary applications before they are recycled". However, a battery retaining 70-80% of its original capacity may still be considered functional for the vehicle owner. It is vital to differentiate between "performance degradation" – where the battery is still a functional, safe component for ongoing use – and "structural / safety end-of-life" – where severe mechanical failure or thermal instability renders it unsafe. Conflating reduced utility with hazardous waste risks blurring legal lines and could suggest premature vehicle scrappage, escalating cost pressures for consumers.

2.3 Diagnostic triage and the definition of "damaged" batteries (section 5.4)

The document states that "LIBs should be considered damaged or unsafe if (...) they have been recalled". A battery recall does not necessarily mean that the asset is damaged beyond repair. Most recalls relate to administrative updates, software patches, or ancillary hardware. While the FCAI fully supports the precautionary principle – that in the complete absence of manufacturer data, a recalled battery should default to being treated as hazardous – the recall information provided by the OEMs will explicitly state when a battery presents a critical thermal risk. This recall information should be relied on in the battery health assessment.

Further, categorising a battery as damaged simply because a vehicle was involved in a “moderate-to-severe” collision as section 5.4 suggests is highly subjective. The industry agrees that a battery involved in a significant collision must be treated with extreme caution until assessed. However, applying a permanent hazard classification based on a subjective visual metric of the vehicle’s exterior risks over-classifying structurally sound batteries, unnecessarily escalating reverse-logistics costs by forcing adherence to Packing Group I or II standards. The level of impact an EV may be involved in should inform the battery health assessment, but it cannot be the single determining factor, as batteries often survive severe crash testing intact.

The FCAI recommends harmonising the definition of a damaged battery with the global UN Model Regulations (24th Edition) and the Australian ADG Code (Edition 7.9) under Special Provision 376. These frameworks dictate that classification must rely on rigorous safety criteria provided by the manufacturer and explicitly require that where the level of risk remains uncertain, high-risk packaging must be used.

The guideline should also explicitly reference the latest *SAE J2950 Recommended Practices for Shipping Transport and Handling of Automotive-Type Battery System - Lithium Ion*, which provides a structured, step-by-step diagnostic process for service personnel to determine if a battery is damaged for transport purposes.

2.4 Dealership capabilities and battery discharging (section 7.2.1.2)

Most franchised dealerships and collision repairers do not possess the specialised tools required to safely discharge high-voltage batteries once they have been removed from the vehicle’s architecture. While in-vehicle diagnostics are standard, out-of-vehicle electrical discharging generally necessitates costly, industrial-grade load banks. Furthermore, alternative methods such as discharging via submersion are strictly industrial processes requiring stringent toxic wastewater management, placing them outside the scope of the automotive retail network.

Crucially, if a battery is already classified as damaged, OEMs generally advise against any attempt to discharge the asset outside of a dedicated, industrial recycling facility, as active intervention can severely escalate the immediate thermal and chemical risks.

Consequently, the FCAI strongly supports the draft’s position that discharging batteries prior to transport must not be mandatory. Where discharging is deemed necessary and safe, it is imperative that it strictly follows the manufacturer’s specific instructions and is conducted exclusively by qualified technical experts.

For clarity, we recommend the guideline explicitly states that the discharging methodologies outlined in section 9.2 are intended for, and applicable solely to, dedicated battery dismantling and recycling facilities.

2.5 Dealership capabilities and disassembly (sections 6.4.2 and 7.2.1.8)

The guideline currently advises that facilities must "allocate a separate outdoor area for battery removal, at least 15m away from structures". While this may be appropriate for industrial dismantlers or scrap yards dealing with compromised assets, it fundamentally contradicts standard automotive repair practices. OEM-certified technicians routinely and safely remove high-voltage batteries using specialised hoists and diagnostic tools within highly controlled, indoor dealership service bays.

Mandating that all EV battery removals occur outdoors with a 15-metre clearance would be operationally unworkable for the retail network and ignore the sophisticated safety infrastructure already present in modern automotive workshops. We recommend clarifying that this outdoor restriction applies only to compromised batteries or end-of-life dismantling facilities, not to controlled automotive service interventions.

The recommendation in section 7.2.1.8 that large batteries should not be disassembled before transportation must also be nuanced to reflect modern dealership capabilities.

In the automotive sector, OEM-certified technicians do open battery packs to conduct highly controlled mechanical repairs, such as replacing self-contained modules, high-voltage contactors, fuses, or cooling lines. Collection and transport for recycling of defective components like battery modules is then organised.

Dealership personnel do not expose raw cells, cut welds, or conduct chemical remanufacturing. Therefore, the regulatory burden placed on a dealership replacing a module should be proportional to a mechanical repair, rather than enforcing the stringent regulations designed for industrial recycling plants.

2.6 Incident management, quarantine, and hazmat extraction

While a 15-metre open-air isolation zone is a recognised baseline for the quarantine of damaged electric vehicles, it is physically impossible to strictly enforce in most service and collision repair centres. Similarly, spatial and infrastructure constraints often preclude these sites from utilising large-scale containment skips.

The guideline should certainly outline these benchmarks as recommended practice, but it must equally recognise operational realities and avoid prescriptive, one-size-fits-all mandates. At the core of this issue is proportionality: franchised dealerships and repairers rarely process severely compromised batteries. Therefore, regulatory expectations must allow for site-specific safety solutions that are proportionate to the actual frequency and scale of the risk.

Industry practice is rapidly evolving, with approaches varying across OEMs based on battery architecture, incident frequency, and the legacy constraints of individual dealership footprints. OEMs are actively collaborating with their networks to deploy appropriate, engineered solutions for physical isolation. Where a physical isolation perimeter is unachievable, this may include the implementation of fire-rated barrier partitions, active thermal monitoring, or controlled electrical discharging. While discharging separated batteries requires industrial-grade infrastructure not typically found in dealerships, it is an emerging capability being considered within specific OEM service networks. Therefore, guidelines should remain flexible enough to accommodate these evolving, brand-specific technological solutions without inadvertently mandating them as an immediate baseline requirement across the broader retail industry.

Simultaneously, a primary focus over the last few years has been the maturation of OEM reverse-logistics networks. Brands are increasingly partnering with specialist high-voltage subcontractors to manage EOL batteries resulting from recalls and warranty replacements.

As the capabilities of these subcontractors scale with the Australian EV fleet, the industry focus is likely to shift towards more sophisticated service level agreements (SLAs) that will dynamically match collection timeframes and transport methodologies with the specific hazard profile and risk level of the individual battery. Furthermore, to overcome site-level spatial constraints, several OEMs and dealer groups are exploring opportunities to aggregate their requirements through regional consolidation hubs, establishing shared, highly secure staging facilities rather than duplicating complex quarantine infrastructure at every individual dealership.

Beyond the challenges of physical quarantine and reverse logistics, the guideline must also address the apex risk of physical battery extraction. It is vital that the regulatory framework clearly delineates between a routine battery removal – such as a warranty repair in a controlled service bay – and the extraction of a severely compromised battery that may be venting, exhibiting leaks or experiencing thermal instability.

In these severe scenarios, franchised dealerships, standard collision repairers, and frontline tow operators simply do not possess the specialised WHS clearances, hazmat training, or industrial infrastructure required to safely extract a venting battery from a compromised chassis. Therefore, the guidelines must actively facilitate and permit the transport of the entire vehicle directly to specialised, industrial-grade dismantling facilities, rather than inadvertently imposing disproportionate hazmat extraction burdens onto the urban retail and repair network.

2.7 Regional logistics and storage timeframes

The guideline’s recommendation (detailed in Appendix C, 14.3.4) to minimise storage duration and arrange transport within 60 to 90 days may not align with the logistical realities of Australia’s regional and remote automotive network, specifically for undamaged batteries. While a 90-day turnaround is viable in metropolitan centres, regional dealerships often require extended periods to aggregate sufficient volumes of end-of-life batteries to justify the high cost of specialised dangerous-goods freight.

Enforcing a strict 60-to-90-day limit could impose a disproportionate financial penalty on regional businesses. As such, we recommend adjusting this guideline to allow for extended storage timeframes where batteries are stable, safely quarantined, and awaiting scheduled regional freight consolidation.

2.8 Emergency preparedness, response and recovery (section 10)

The FCAI strongly recommends that the guideline references and integrates existing industry digital tools, specifically the ANCAP RESCUE application and OEM Emergency Response Guides (ERGs):

- The ANCAP RESCUE App is a digital platform provided by the Australasian New Car Assessment Program (ANCAP). It gives emergency services and first responders immediate, on-scene access to standardised vehicle rescue sheets. By entering a vehicle's registration or make/model, users can instantly view 3D schematics detailing the exact location of high-voltage batteries, high-voltage cable routing, pyrotechnic seatbelt tensioners, airbags, and safe "cut zones" for vehicle extrication.
- ERGs are comprehensive, model-specific safety documents authored directly by the vehicle manufacturer that provide deep operational instructions. They detail exactly how to manually disable the high-voltage system, manage stranded energy, mitigate thermal runaway, and safely tow or store that specific vehicle model.

The automotive industry has already invested heavily in developing and maintaining these platforms to provide precise, vehicle-specific hazard data to frontline personnel. Rather than relying on broad, generic physical guidelines – or exterior warning labels that are easily obscured or destroyed in a severe collision – the regulatory focus should be on integrating this existing digital intelligence into the baseline training of the waste, towing, and independent repair sectors. Formalising the use of the ANCAP RESCUE app and ERGs ensures that downstream handlers are assessing risks based on accurate, manufacturer-approved engineering data rather than subjective visual estimations.

On a separate point, we note a significant discrepancy in section 10.2.2, which indicates that 4,410 to 4,822 litres of water would generally be required to extinguish an electric vehicle fire. Global firefighting data and industry consensus consistently indicate that a fully involved battery electric vehicle (BEV) fire requires between 25,000 and 100,000 litres of water to sufficiently cool the pack and prevent reignition. It is critical that the guideline reflects these higher volumes to ensure accurate site preparation and emergency response planning.

Furthermore, to maintain clarity throughout the firefighting section, we recommend consistent use of the taxonomies defined earlier in the document – namely HEV (Hybrid Electric Vehicle), PHEV (Plug-in Hybrid Electric Vehicle), and BEV (Battery Electric Vehicle). Reverting to a binary "Hybrid" versus "Electric" distinction in section 10.2.2 risks oversimplifying the distinct thermal and architectural profiles of these different powertrains.

Finally, section 7.2.3 outlines significant risk mitigation and high-voltage Personal Protective Equipment (PPE) requirements for tow truck operators transporting damaged EVs. While these are appropriate safety benchmarks, the guideline assumes a level of high-voltage awareness and capability that may not universally exist in the workforce.

Currently, there is a lack of formal, standardised vocational training pathways for frontline tow operators regarding EV thermal incidents. If environmental regulations mandate strict handling protocols before the national workforce is equipped to meet them, there is a severe risk that operators will refuse to recover damaged EVs due to liability concerns, leaving compromised assets stranded on public roads or inappropriately deposited at standard automotive service centres.

To resolve this, the FCAI recommends HEPA formally refers the development of these emergency handling capabilities to Industry Skills Australia (ISA). As the designated Jobs and Skills Council for the transport and logistics sector, ISA is the appropriate body to develop a nationally recognised competency framework for EV recovery. Furthermore, coordinating this effort with the Mining and Automotive Skills Alliance (AUSMASA) would ensure that the roadside transport protocols seamlessly align with the safe-handling standards utilised in the automotive repair sector.

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