Vehicle Standard (Australian Design Rule 109/00 – Electric Power Train Safety Requirements) 2023

Made under section 12 of the *Road Vehicle Standards Act 2018*

Explanatory Statement

Approval by Senator the Hon Carol Brown, Assistant Minister for Infrastructure and Transport

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Authorised Version Explanatory Statement registered 20/11/2023 to F2023L01529

CONTENTS

1. LEGISLATIVE AUTHORITY

1.1. National Road Vehicle Standards

Vehicle Standard (Australian Design Rule 109/00 – Electric Power Train Safety Requirements) 2023, also referred to as ADR 109/00, is made under the *Road Vehicle Standards Act 2018* (RVSA). The RVSA enables the Australian Government to establish nationally uniform standards that apply to new road vehicles or road vehicle components when they are provided to the market in Australia. The RVSA applies to vehicles or components whether they are manufactured in Australia or imported.

The making of the vehicle standards necessary for the RVSA's effective operation is provided for in section 12, which empowers the Minister to "determine standards for road vehicles or road vehicle components".

1.2. Exemption from Sunsetting

ADR 109/00 is exempt from the sunsetting provisions of the *Legislation Act 2003.* It is appropriate that standards made under section 12 of the RVSA, also known as the Australian Design Rules (ADRs), remain enduring and effective to regulate ongoing road worthiness of vehicles throughout their useful life and reduce regulatory burden on vehicle manufacturers.

Source of the Exemption

A standard made under section 12 of the RVSA is not subject to the sunsetting provisions of section 50 of the *Legislation (Exemptions and Other Matters) Act 2003* through section 12 of the *Legislation (Exemptions and Other Matters) Regulation 2015* (table item 56C). A similar exemption was previously granted in respect of national road vehicle standards made under section 7 of the *Motor Vehicle Standards Act 1989* (MVSA) (item 40, section 12 of the *Legislation (Exemptions and Other Matters) Regulation 2015*). This exemption is important to ensure that ADR 109/00 continues to remain in force, and available to regulators and industry.

Intergovernmental dependencies

The exemption concerns ADRs which facilitate the establishment and operation of the intergovernmental vehicle standard regime that Commonwealth, State and Territory governments rely on to regulate the safety of vehicles on public roads.

The Commonwealth uses the ADRs as the basis on which approvals to supply types of road vehicles to the market are granted under the *Road Vehicle Standards Rules 2019*. States and territories use the ADRs as the primary criteria on which vehicles are assessed for road worthiness. This 'in-service' aspect is dependent on the date of manufacture, which determines the applicable version of the ADRs against which the vehicle can be assessed. The ability to rely on national standards is particularly relevant given the long service life of vehicles – the average age of vehicles in Australia is 12.1 years.

While the ADRs are regularly updated to reflect changes in technology, it is not possible to apply these new standards retrospectively to vehicles that are already in use. With former ADRs kept on the Federal Register of Legislation, State and

Authorised Version Explanatory Statement registered 20/11/2023 to F2023L01529

Territory governments can use them to ensure vehicles continue to comply with the ADRs that were in force when they were first supplied to the market.

In the event that the Commonwealth could not justify the maintenance of the ADRs, State and Territory governments would be compelled to create their own vehicle standards. Whilst this could mean adopting the substance of the lapsed ADRs as an interim measure, the differing needs and agendas of each State and Territory government may result in variations to in-service regulations. Having different vehicle standards across the states and territories would make the scheme operate contrary to the underlying policy intent of the RVSA which is to set nationally consistent performance-based standards.

Commercial dependencies

The effect on vehicle manufacturers to redesign existing models to comply with new ADRs would present a burden and be a costly and onerous exercise. Manufacturers should not be expected to continually go back to redesign existing vehicles. Furthermore, ongoing product recalls to comply with new ADRs would undermine consumer confidence with significant financial impact to manufacturers. This exemption allows vehicle manufacturers to focus their efforts to ensure new models supplied to the market continue to comply.

Review of Australian Design Rules

ADRs are subject to regular reviews, as resources permit, and when developments in vehicle technology necessitates updates to requirements.

Reviews of the ADRs ensure the ongoing effectiveness of a nationally consistent system of technical regulations for vehicle design, which are closely aligned, wherever appropriate with leading international standards such as United Nations regulations. This method facilitates the rapid introduction of the latest safety devices and technological advances into the Australian market, while also contributing to the industry's cost competitiveness in the domestic market.

1.3. International Harmonisation

ADR 109/00 is harmonised with United Nations regulation 100 (UN R 100). This allows manufacturers to transfer technology used in other markets to vehicles being supplied in Australia. It benefits Australia by allowing us to take advantage of the well-developed views of the international vehicle manufacturing and vehicle safety community. This ultimately leads to safer and cheaper products for Australians.

ADR 109/00 provides three pathways for manufacturers to comply. Firstly, Appendix A is an Australianised version of UN R 100, and provides the technical requirements of the ADR, clause 6 of the ADR exempts parts of Appendix A not relevant for the supply of vehicles in Australia and adds alternate procedures to deal with parts of the UN regulation that are not consistent with Australia's type approval system set out in the RVSA. For instance, manufacturers are exempt from requirements that pertain to UN type approvals, and instead, need to comply with the approval process set out in the RVSA. Additionally, requirements in the UN regulation involving negotiation between the manufacturer and a type approval authority are replaced with specific Australian requirements.

Authorised Version Explanatory Statement registered 20/11/2023 to F2023L01529

The second pathway is through one of the Alternative standards set out in section 7. This includes the technical requirements of different editions of UN R 100 and provides manufacturers some choice in which version they comply with to deal with the life cycle of vehicle models.

The third pathway is through Vehicle Standard (Australian Design Rule Harmonisation) 2012. As ADR 109/00 includes UN regulation 100 as an alternative standard, vehicle manufacturers with models covered by an approval issued by a contracting party to the UN 1958 Agreement can use that approval to satisfy the requirements of ADR 109/00.

2. PURPOSE AND OPERATION

2.1. Overview of the Regulatory Framework

The RVSA establishes a regulatory framework to regulate the importation and first supply of road vehicles to the market in Australia. The core principle of this framework is that vehicles which comply with appropriate standards are suitable for provision to the market in Australia. The ADRs have set out those standards since the early 1970s. At that time, they were applied cooperatively by the Australian Motor Vehicle Certification Board representing the Commonwealth and state and territory governments. In 1989, this arrangement was replaced by the Motor Vehicle Standards Act 1989 (the MVSA) and the Australian Design Rules were determined as national standards. The RVSA commenced in full and replaced the MVSA on 1 July 2021. A two-year transition period was provided between 1 July 2021 and 30 June 2023.

Under the RVSA, the ADRs are National Road Vehicle Standards intended to make vehicles safe to use, control the emission of gas, particles or noise, secure vehicles against theft, provide for the security marking of vehicles and promote the saving of energy. The ADRs are applied to vehicles as criteria for approval under various regulatory pathways set out in the Road Vehicle Standards legislation. Vehicles approved under these regulatory pathways can be provided to the market in Australia for use in transport.

2.2. Overview of the ADR

To provide for ease of use, this ADR follows a similar format to other ADRs based on UN regulations:

> **Clause 1**: Legislative Provisions, sets out the name of the ADR and the commencement date. A commencement the day after registration means that the ADR is available for applicants to comply with the day after the instrument is published on the Federal Register of Legislation at https://www.legislation.gov.au/. Clause 3 sets out when the ADR will be mandatory for vehicles of different types.
>
> **Clause 2**: The Function is intended to provide readers with a high-level understanding of what the ADR is for. In this case, ADR 109/00 is intended to improve the safety of electric vehicles or vehicles that use an electric motor to drive them.

Clause 3: ADR 109/00 is applicable to passenger and goods vehicles. It is not applicable to two or three wheeled vehicles or trailers. It is also not applicable to vehicles that don't have an electric drivetrain or a Rechargeable Electric Energy Storage System (REESS). Clause 3 of the ADR also sets out that it will be mandatory for new model vehicles from 1 November 2024. This means that after 1 November 2024 an applicable vehicle which is of a type that has not yet had any vehicles added to the Register of Approved Vehicles must comply. Clause 3 of the ADR also sets out that from 1 November 2025 all models of applicable vehicle must comply. In practise, approval holders must update their approvals prior to the all model applicability date to show compliance with ADR 109/00 and to avoid the possibility of supply disruption.

In accordance with section 202 of the Road Vehicle Standards Rules 2019(the Rules), an existing type approval will automatically be suspended if a National Road Vehicle Standard is amended or a new national road vehicle standard is made and the new or amended standard would affect the requirements that apply to the vehicles covered by a road vehicle type approval or component type approval. In the case of ADR 109/00, a type approval for a model that included electric vehicles that had been approved, but not yet had any vehicles added to the Register of Approved Vehicles would be suspended under this provision on 1 November 2024 until the approval was amended to include ADR 109/00. Similarly, a type approval for a model that included electric vehicles that did have vehicles added to the Register of Approved Vehicles would be suspended on 1 November 2025 until the approval was amended to include ADR 109/00.

Subclause 3.3 clarifies that vehicles which comply with later versions of ADR 109 don't also need to comply with ADR 109/00. This will allow applicants to comply with ADR 109/01 before it becomes mandatory.

Clause 4 sets out a number of sources of defined terms. For the most part, defined terms are found in Appendix A and come directly from the UN regulation. Some terms come from the Vehicle Standard (Australian Design Rule – Definitions and Vehicle Categories) 2005, such as the definitions for date of manufacture. Clause 4 includes a definition for supporting information, linking the ADR to the requirements for type approval as set out in the Rules. It also defines testing facility in accordance with the Rules and aligns with term Technical Service used in Appendix A.

Clause 5 sets out the different compliance pathways for whole vehicles and for component type approvals for REESS.

Clause 6 explains the parts of Appendix A that are not applicable to ADR 109/00 as well as certain circumstances where Appendix A is to be read differently to how it has been adapted from the UN Regulation.

Subclause 6.1 exempts the administrative aspects of UN regulation 100 from the ADR.

Authorised Version Explanatory Statement registered 20/11/2023 to F2023L01529

Subclause 6.2 translates UN vehicle categories into the ADR vehicle categories to allow appendix A to be read properly for Australian type approvals.

Subclause 6.3 amends UN R100 to provide for the fitting of REESS covered by a Component Type Approval issued in accordance with section 177 of the Rules.

Subclause 6.4 amends UN R100 to clarify that the exemption for testing set out in paragraph 5.4.1 of Appendix A extends to REESS covered by a Component Type Approval issued in accordance with section 177 of the Rules.

Subclause 6.5 amends UN R100 by prohibiting the placement of a REESS between a line from the rear edge of the vehicle, perpendicular to the centre line of the vehicle, and 300 mm forward of this line. This was done because the performance requirements of the UN Regulation are not clearly specified and locating a REESS in this position involves risk of damage in a rear impact. Consultation with other contracting parties to the UN 1958 agreement suggests that few if any vehicles are being manufactured with a REESS in this area. It is expected that Appendix A will mostly be used by less sophisticated manufacturers and vehicle modifiers where the risk of locating a REESS in this area is amplified. Manufacturers may still locate their REESS in this area only if they comply with the provisions of the alternative standards.

Subclause 6.6 amends UN R100 to remove the ability for manufacturers to negotiate with a technical service on how to undertake a vehicle specific component based mechanical integrity test for a REESS. It replaces these arrangements with requirements for the manufacturer to decide on crush forces based on previous tests undertaken on the vehicle type. It requires the manufacturer to record this information in its "supporting information" which is a concept set out in the Rules, and is used by the regulator to ensure documentation used by the manufacturer is available for scrutiny. This subclause also clarifies the term Manufacturer as having the meaning set out in the Vehicle Standard (Australian Design Rule – Definitions and Vehicle Categories)2005. These changes ensure ADR 109/00 can work in accordance with the RVSA.

Subclause 6.7 amends UN R 100 to remove the ability for manufacturers to negotiate with a technical service on how to undertake a component based mechanical integrity test for a REESS. It replaces these arrangements with requirements for the manufacturer to decide on crush forces based on previous tests undertaken on the vehicle type. It requires the manufacturer to record this information in its "supporting information" which is a concept set out in the Rules, and is used by the regulator to ensure documentation used by the manufacturer is available for scrutiny. This subclause also clarifies the term Manufacturer as having the meaning set out in the Vehicle Standard (Australian Design Rule – Definitions and Vehicle Categories)2005. These changes ensure ADR 109/00 can work in accordance with the RVSA.

Authorised Version Explanatory Statement registered 20/11/2023 to F2023L01529

Subclause 6.8 amends paragraph 6.10.1 of Appendix A to remove the arrangement to negotiate a test method for hydrogen emissions with a technical service, and replace that approach with the ability to either test to the requirements in paragraph 5.4 of appendix A or rely on any international, national or industry standard for the type of technology used. This is intended to provide the ability for manufacturers to use innovative battery technology without having ADR 109/00 amended.

Subclause 6.9 provides applicants with the ability to use different dynamometers for the test in appendix A Annex 7 to cater for manufacturers that have relied on alternative approaches for emissions testing and have different equipment available.

Subclause 6.10 amends appendix A to provide the ability for applicants to use different methods to calibrate the hydrogen analyser if the applicant demonstrates to the approved testing facility that the method provides equivalent accuracy.

Subclause 6.11 amends appendix A to provide the ability for manufacturers to use an alternative vibration profile for the test in Annex 8A of appendix A that is more representative of the vehicle type. This change was needed to adapt appendix A to the Australian type approval system which does not use technical services acting on behalf of the government.

Clause 7 Alternative Standards sets out standards which are considered to be acceptable alternatives to ADR 109/00. Each of the alternative standards specify that it relates to the technical requirements within the referenced standard. This means that applicants aren't required to have approvals from other regulators or provide documentation set out in the standard. Applicants for vehicle type approval will be expected to nominate one or more of the information types set out in section 19(2) of the Rules to demonstrate compliance with the alternative standard. For component type approvals applicants would similarly be expected to provide information in accordance with section 177 of the Rules.

Subclause 7.1 lists the technical requirements of United Nations Regulation No. 100 – UNIFORM PROVISIONS CONCERNING THE APPROVAL OF VEHICLES WITH REGARD TO SPECIFIC REQUIREMENTS FOR THE ELECTRIC POWER TRAIN, incorporating the 02 series of amendments as an alternative standard. While the standard is incorporated as at the date this ADR is made, applicants are able to comply with any of the versions of regulation 100 that incorporate the 02 series of amendments. Each of the supplements and corrigenda made after the 02 series of amendments was made are considered to be relaxations or clarifications and don't affect the stringency of the regulation. As regulation 100 relies on different vehicle categories to those used in the ADRs, applicants must translate the requirements to suit ADR vehicle categories.

Subclause 7.2 lists the technical requirements of the United States Federal Motor Vehicle Safety Standards (FMVSS) No. 305 (49 CFR 571) – 23-08-19

Edition as an alternative standard. Its use is limited to vehicles with an electric power train and a Rechargeable Electrical Energy Storage System (REESS) that are passenger cars, multipurpose passenger vehicles, trucks and buses with a gross vehicle weight rating (GVWR) of 4536 kg or less as defined in the US vehicle regulatory system, that use more than 48 nominal volts of electricity as propulsion power and whose speed, attainable in 1.6 km on a paved level surface, is more than 40 km/h. As US vehicle categories and cut points are different to those in the ADRs applicants must translate the US requirements to the ADR equivalent.

Subclause 7.3 lists the technical requirements of United Nations Global Technical Regulation (GTR) No. 20 – ELECTRIC VEHICLE SAFETY (EVS), as an alternative standard. As vehicle categories under the UN 1998 agreement are different to ADR vehicle categories, applicants must translate the requirements to the equivalent ADR vehicle category.

Appendix A

Appendix A is a compilation of United Nations Regulation 100 that brings together the 02 series of amendments and each of the amendments to the 02 series that were in force at the time of writing the ADR. Appendix A holds the bulk of the requirements for ADR 109/00.

Paragraph 1 Scope sets out among other things that it does not apply to vehicles that are permanently connected to the grid. In this case, if an electric vehicle is not fitted with an REESS, ADR 109/00 is not applicable, however a vehicle with a grid connection that includes a REESS for part time use is required to comply.

Part 1: Requirements of a vehicle with regard to its electrical safety includes the bulk of requirements for vehicle type approvals. Where necessary it references defined terms set out in clause 2 and references annexes to the regulation which set out further detail on how testing is to be undertaken.

Paragraph 5.1 Protection against electrical shock includes requirements to:

Protect against direct contact, such as the design of the vehicle to limit the ability of high voltage live components to be touched, it includes requirements for barriers and exemptions for parts where contact will be routinely required, including for the recharging system. It requires high voltage components to be appropriately marked to advise users of the hazard.

Protect from indirect contact, which means contact with parts that may come into contact with high voltage components. It sets out a range of design requirements intended to ensure components are properly grounded to reduce the risk of short circuits.

Provide Isolation Resistance, to ensure that isolated high voltage circuits are appropriately designed and include separation from other conductive

components and other low voltage electrical circuits through insulation and mechanical barriers.

Paragraph 5.2 Rechargeable Electrical Energy Storage System provides for systems that have either been separately type approved or are being tested as part of the vehicle approval. For the purposes of Appendix A to ADR 109/00, applicants may also use a REESS that is covered by a component type approval issued in accordance with section 177 of the Rules. This section requires REESS systems fitted to vehicles to meet the relevant requirements of part II of UN R 100. It also requires systems to be provided with ventilation to prevent the accumulation of hydrogen gas which is produced during charging of some battery types.

Paragraph 5.3 Functional Safety includes a number of design requirements including alerts to inform the driver of the operating state of the vehicle and preventing the vehicle from moving while the battery is being externally charged.

Paragraph 5.4 Determination of Hydrogen Emissions sets limits on the amount of hydrogen that can be emitted by a system that includes open traction type batteries which are batteries that are vented to the atmosphere. It includes a standard test method and also requires a test to be undertaken if the charge controller is not operating properly. It requires the vehicle to alert the driver to charge controller failures.

Part II: Requirements for a Rechargeable Electrical Energy Storage System with regard to its safety. This part contains the requirements necessary for a component type approval and the requirements for a non type approved REESS being used in an application for a vehicle type approval. Where necessary it references definitions in paragraph 2 and annexes in the regulation for test requirements.

Paragraph 6.1 General refers to procedures in Annex 8 to be followed. In this version of UN R 100 there are no requirements in Annex 8 so applicants don't need to do anything.

Paragraph 6.2 Vibration – requires REESS's to be tested in accordance with Annex 8A which subjects the REESS to vibration in a range of different frequencies over a period of time. The purpose of this test is to simulate the type of vibration a REESS will experience over its life. The paragraph includes visual acceptance criteria of no evidence of electrolyte leakage, rupture, fire or explosion.

Paragraph 6.3 Thermal Shock and cycling – requires the REESS to be tested in accordance with Annex 8B which will cycle the REESS between hot and freezing temperatures for five cycles followed by discharging and charging the REESS and then monitoring for the visual acceptance criteria of no evidence of electrolyte leakage, rupture, fire or explosion

Paragraph 6.4 Mechanical Impact – requires the REESS to be tested for mechanical shock and mechanical integrity. It provides a path for testing that

is equivalent to the various crash tests applied to light vehicles and a path for testing of the REESS outside of the vehicle which will mostly apply to heavy vehicles. The criteria for acceptance include no evidence of fire, explosion or electrolyte leakage. An additional isolation resistance test is required for high voltage REESS.

Paragraph 6.5 Fire Resistance – sets requirements for REESS that contain flammable electrolytes and where the REESS's lower surface is 1.5m above the ground are less. The test set out in Annex 8E requires the REESS to be held above a fire for a period of time. The acceptance criteria is that there is no evidence of explosion during the test.

Paragraph 6.6 External Short Circuit Protection – requires REESS's to be tested in accordance with requirements in annex 8F. Acceptance criteria include no evidence of electrolyte leakage, rupture, fire or explosion.

Paragraph 6.7 Overcharge Protection - requires REESS's to be tested in accordance with requirements in annex 8G. Acceptance criteria include no evidence of electrolyte leakage, rupture, fire or explosion.

Paragraph 6.8 Over-discharge Protection - requires REESS's to be tested in accordance with requirements in annex 8H. Acceptance criteria include no evidence of electrolyte leakage, rupture, fire or explosion.

Paragraph 6.9 Over- temperature Protection - requires REESS's to be tested in accordance with requirements in annex 8I. Acceptance criteria include no evidence of electrolyte leakage, rupture, fire or explosion.

Paragraph 6.10 Emission – provides a number of pathways for the testing of REESS's that use different types of battery. The acceptance criteria for open battery systems is as set out in paragraph 5.4. Closed systems ie systems not vented to atmosphere are accepted as complying.

MATTERS INCORPORATED BY REFERENCE

2.3. Other Legislative Instruments

Clause 4.1.2 of ADR 109/00 includes a reference to the Vehicle Standard (Australian Design Rule Definitions and Vehicle Categories) 2005 (which may also be cited as the Australian Design Rule – Definitions and Vehicle Categories). This sets out definitions for many terms used in the ADRs, including the vehicle categories used in ADR applicability tables.

Clauses 6.9 includes a reference to Vehicle Standard (Australian Design Rule 79/03 – Emission Control for Light Vehicles.) 2011.

In accordance with paragraph 12(2)(b) of the RVSA, each of these ADRs are incorporated as in force or existing from time to time.

The ADRs may be freely accessed online through the Federal Register of Legislation. The website is www.legislation.gov.au.

2.4. Other Documents

United Nations Regulations, Global Technical Regulations and Resolutions

Clause 6.7, Appendix A paragraph 6.4.2.1.1, 6.4.2.1.2 and 6.4.2.2 reference United Nations Regulations 12,94 and 95, these regulations provide the option for manufacturers of certain vehicle types to rely on testing for crash standards to demonstrate compliance with this ADR rather than having to undertake a separate test. These regulations are available free of charge at https://unece.org/un-regulations-addenda-1958-agreement. As these references do not include the series of amendments of the UN regulation they refer to, the references are to the series of amendments in force at the time the ADR is made. This means for UN Regulation 12 the 05 series of amendments, for UN Regulation 94 the 04 series of amendments and for UN Regulation 95, the 05 series of amendments. However, as the intent of these references is to reduce the need for additional testing, manufacturers can also rely on earlier versions or future versions if those tests are undertaken to demonstrate compliance with Regulations 12, 94 95 or ADRs 10, 72 and 73 which are the Australian equivalents.

Clause 7.1 includes a reference to the 02 series of UN Regulation No. 100 – UNIFORM PROVISIONS CONCERNING THE APPROVAL OF VEHICLES WITH REGARD TO SPECIFIC REQUIREMENTS FOR THE ELECTRIC POWER TRAIN FOR M_1, M_2, M_3, N_1, N_2 AND N_3 VEHICLES (UN R100). This is an international standard for Specific Requirements for the Electric Power Train to passenger cars, forward-control passenger vehicles, off-road passenger vehicles, light omnibus, heavy omnibus, light goods, medium goods and heavy goods vehicles with a maximum design speed exceeding 25 km/h, excluding vehicles permanently connected to the grid. Regulation 100 is available free of charge at https://unece.org/transport/vehicle-regulations-wp29/standards/addenda-1958-agreement-regulations-81-100. In accordance with paragraph 14(1)(b) and subsection 14(2) of the *Legislation Act 2003*, this document is incorporated as in force on the date this national road vehicle standard is made.

Clause 7.3 includes a reference to the technical requirements of the United Nations Global Technical Regulation (GTR) UN GTR No. 20 – ELECTRIC VEHICLE SAFETY (EVS), for vehicles equipped with an electric power train and a Rechargeable Electrical Energy Storage System (REESS). GTR 20 is available free of charge at https://unece.org/transport/standards/transport/vehicle-regulations-wp29/global-technical-regulations-gtrs. In accordance with paragraph 14(1)(b) and subsection 14(2) of the *Legislation Act 2003*, this document is incorporated as in force on the date this national road vehicle standard is made.

Paragraph 2.23 of Appendix A clarifies that a flammable electrolyte means an electrolyte that contains substances classified as Class 3 “flammable liquid” under “UN Recommendations on the Transport of Dangerous Goods – Model Regulations (Revision 17 from June 2011), Volume I, Chapter 2.3 www.unece.org/trans/danger/publi/unrec/rev17/17files_e.html

In accordance with paragraph 14(1)(b) and subsection 14(2) of the *Legislation Act 2003*, this document is incorporated as in force on the date this national road vehicle standard is made.

United States Federal Motor Vehicle Safety Standards

Clause 7.2 includes a reference to the United States (US) Federal Motor Vehicle Safety Standards (FMVSS) No. 305 (49 CFR 571) – 27-9-17 Edition. This is an US standard for an electric power train and a Rechargeable Electrical Energy Storage System (REESS) for passenger cars, multipurpose passenger vehicles, trucks and buses with a gross vehicle weight rating (GVWR) of 4536 kg or less, that use more than 48 nominal volts of electricity as propulsion power and whose speed, attainable in 1.6 km on a paved level surface, is more than 40 km/h. This document is available free of charge from https://www.ecfr.gov/current/title-49/subtitle-B/chapter-V/part-571/subpart-B/section-571.305

3. CONSULTATION

3.1. General Consultation Arrangements

It has been longstanding practice to consult widely on proposed new or amended vehicle standards. For many years, there has been active collaboration between the Commonwealth and the State/Territory governments, as well as consultation with industry and consumer groups. Much of the consultation takes place within institutional arrangements established for this purpose. The analysis and documentation prepared in a particular case, and the bodies consulted, depend on the degree of impact the new or amended standard is expected to have on industry or road users.

Proposals that are regarded as significant need to be supported by a Preliminary Assessment (PA) meeting the requirements of the Office of Impact Analysis (OIA) as published in the *Australian Government Guide to Regulatory Impact Analysis* or the *Regulatory Impact Analysis Guide for Ministers' Meetings and National Standard Setting Bodies.*

3.2. Specific Consultation Arrangements

The Department undertook consultation through two of its established consultation forums the Technical Liaison Group (TLG) and the Strategic Vehicle Safety and Environment Group (SVSEG), (SVSEG 24 and TLG 55) where members noted their full support for implementation of an ADR for Electric Power Train Safety Requirements.

TLG consists of technical representatives of government (Australian and State/Territory), the manufacturing and operational arms of the industry (including organisations such as the Federal Chamber of Automotive Industries and the Australian Trucking Association) and of representative organisations of consumers and road users (particularly through the Australian Automobile Association).

Authorised Version Explanatory Statement registered 20/11/2023 to F2023L01529

SVSEG consists of senior representatives of government (Australian and State/Territory), the manufacturing and operational arms of the industry and of representative organisations of consumers and road users (at a higher level within each organisation as represented in TLG).

3.3. Public Consultation

A public consultation for Electric Power Train Safety Requirements was posted on the Department's website for an eight-week public comment period, which closed on 27 March 2023. The Public comment summary will be published on the Federal Register of Legislation.

4. REGULATORY IMPACT

Mandating an ADR for Electric Power Train Safety Requirements, will have a positive net benefit to the economy due to the safety requirements in the UN Regulation. A Preliminary Assessment (OIA22-03727) conducted by the Department considered the impacts of mandating a new ADR for EVs including battery electric, hybrid and fuel cell vehicles. The impacts were considered minor in nature on industry while market penetration of EVs are still low in Australia. This view is supported by the light and heavy vehicle industry.

Based on the information provided, the OIA was satisfied the proposal is unlikely to have a more than minor regulatory impact, as all light EV suppliers and most heavy EV suppliers already meet UN Regulation No. 100 that this ADR would align with. Further, if regulatory action is not taken, the future is likely to involve fragmented State/Territory safety standards for 'in-service' use of EVs. While the avoided cost of complying with multiple standards could be significant, the costs of future regulatory activities of States and Territories is beyond the scope of Commonwealth impact analysis. As such, the preparation of an Impact Analysis (IA) is not required by the OIA.

STATEMENT OF COMPATIBILITY WITH HUMAN RIGHTS

The following Statement is prepared in accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011.*

4.1. Overview

ADR 109/00 prescribes safety requirements with respect to the electric power train to passenger cars, forward-control passenger vehicles, off-road passenger vehicles, light omnibus, heavy omnibus, light goods, medium goods and heavy goods vehicles with a maximum design speed exceeding 25 km/h, excluding vehicles permanently connected to the grid.

The purpose of the regulation is to protect against electric shock, protect occupants against direct contact with the high voltage live parts and ensure the post-crash safety of road vehicles.

4.2. Human Rights Implications

ADR 109/00 does not engage any of the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

4.3. Conclusion

ADR 109/00 is compatible with human rights, as it does not raise any human rights issues.