By Email: lithiumionbatteries@customerservice.nsw.gov.au

Dear Commissioner

Bicycle Industries Australia (BIA) would like to thank the NSW Office of Fair Trading for identifying the need to modify 2024 Gazetted requirements to sell e-Bikes in NSW. The original Gazetted guidelines were both unachievable and counterproductive to the aim of improving the safety and outcomes for consumers.

While we understand that the Declared Articles framework is not new in NSW, it is apparent the issues of interchangeable parts, stringent testing requirements for the mechanical elements of e-bikes and the highly personalised nature of many e-bikes to their owners were not considered. These elements have required a modified approach to the implementation of the structure to e-bikes in NSW.

A critical concern raised by the declared articles framework, is the inconsistency between the NSW sales regulations and Australian import regulations. These inconsistencies, combined with variations in sale and road use regulations between NSW and the rest of Australia, make it extremely difficult for bike brands to develop an economically viable model for NSW.
If NSW and the Federal Government actually enforce their own regulations, it will not be legally possible to import and sell a 500w e-Bike in NSW.

Further to the issues created by inconsistencies in product definition between NSW and the rest of Australia, the NSW combination of speed, power and throttle regulations are inconsistent with every other jurisdiction in the world (making NSW an extremely small market).

Due to the lack of clarity of the Office of Fair Trading, many brands have begun pursuing certification to UL2849, even though it is a requirement to meet EN15194 for road laws in state jurisdictions across Australia and it will now end up costing more which will need to be passed to the consumer.

The implementation phase of the guidelines is critical to the e-Bike industry, the proposed testing and certification requirements are extremely onerous, so the industry will require additional time to adapt to whatever is decided upon. The guidelines are not yet finalised and supply chains in the bicycle sector are generally 9-12 months from order to delivery.

We are less than 90 days from enforcement of stage 2 certification requirements and the industry does not yet know what it is testing. The 1st of August 2025 certification date is not achievable.

Australia does not have an e-Bike manufacturing industry, Australia is a small market for manufacturers across the world and NSW has effectively isolated itself from the rest of the market. Major international e-Bike brands have already pulled out of the NSW market, failure to provide an achievable structure with an appropriate implementation phase, will result in more high-quality brands withdrawing from the NSW market based purely on the unrealistic costs and administrative burden imposed by the NSW Government.

Finally, although not included in this consultation paper, if the Office of Fair Trading was genuine about providing a safe and quality product for consumers, it would have taken the opportunity to provide a holistic approach to e-Bike sales regulations. This would have included addressing the sale of over-powered, unregulated bikes that are causing an ever-growing number of rider injuries and deaths in NSW.

Again, thank you for this opportunity and I look forward to a more realistic structure and timeframe for the implementation of the certification of e-bikes for sale in NSW.

Regards Peter

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4th April 2025

Bicycle Industries Australia

Bicycle Industries Australia is an independent not-for-profit incorporated membership organisation representing bicycle industry importers, manufacturers, retailers and suppliers. Affiliated with peak industry organisations around the world, BIA is leading the development of the industry in Australia.

For over 50 years the BIA has operated to support bicycle importers, manufacturers and distributors, and in 2014, incorporated the activities of the Retail Cycle Traders Association to expand its focus to include bicycle retail.

Through its leadership and expertise, the BIA has held key positions on Standards Australia committee CS-110, Auto Skills Australia, PWC Skills for Australia's IRC, AUSMASA (The mining and automotive skills alliance), along with the Australian Bicycle Council and Cycling Walking Australia New Zealand.

The BIA submission was made possible with the support of our members.

In particular it would like to acknowledge the brands involved in the preparation of this response.

Definitions

I continue to provide definitions to ensure those not associated with the e-Bike industry have clarity on e-Bike regulations across the various jurisdictions in Australia.

EPAC – (national) – means an electrically-powered pedal cycle with a maximum continued rated power of 250 watts of which the output is:

(a) progressively reduced as the cycle's speed increases; and

(b) cut off, where:

(i) the cycle reaches a speed of 25 km/h; or

(ii) the cyclist stops pedalling and speed exceeds 6kmh

These requirements must be met to legally import an EPAC through customs

- ***A bike certified to 500w cannot be legally imported as an EPAC***

EPAC – (NSW) – means an electrically-powered pedal cycle with a maximum continued rated power of 500 watts of which the output is:

(a) progressively reduced as the cycle's speed increases; and

(b) cut off, where:

(i) the cycle reaches a speed of 25 km/h; or

(ii) the cyclist stops pedalling and speed exceeds 6kmh

A bike imported as 250w cannot be modified after certification for sale as 500w

- ***Therefore, a bike for sale in NSW with max continuous rated power between 251w and 500w has either been imported with a false declaration or illegally modified after certification.***

Power Assisted Pedal Cycle – (NSW) - means a vehicle, designed to be propelled through a mechanism primarily using human power, that:

(a) meets the following criteria:

(i) is equipped with one or more auxiliary propulsion electric motors;

(ii) cannot be propelled exclusively by the motor or motors;

(iii) has a combined maximum power output not exceeding 200 watts;

(iv) has a tare mass (including batteries) of less than 35 kg;

(v) has a height-adjustable seat; or

(b) is an electrically power-assisted cycle;

but does not include a vehicle that has an internal combustion engine.

Power Assisted bicycle (state specific)

- A bicycle with one or more auxiliary motors attached which has a combined maximum ungoverned continuous rated power output not exceeding 200 watts.

- An electrically power-assisted cycle (EPAC). These are pedal cycles with an electric motor that has a maximum continued rated power of 250 watts. The power-assistance progressively reduces as the speed increases and cuts off once a top speed of 25 kilometres per hour is reached. EPACs require the rider to pedal to access the power.

Road laws - It is a requirement under various state road rules, that a bike must meet EN15194 to legally be ridden on that state's roads.

In NSW, VIC and QLD the power of a bike is considered to be the highest capacity of that motor, and the power rating is not changed regardless if the motor is restricted through electronic, mechanical or other means.

Therefore, a bike certified as 500w, cannot be legally ridden on Queensland and Victorian roads, regardless of restricting the motor through electronic, mechanical or other means

Proposed modification

The industry supports the modification of the requirements and acknowledges the response of the department in developing the draft modified order.

Overarching recommendation

The bicycle industry believes that the intent of the declared articles legislation is to reduce risk and likelihood of fire by ensuring goods or parts of those goods that are deemed dangerous are certified and of an appropriate quality.

It is our belief that this requirement is met by testing and certifying the two elements that are critical to reducing the fire risk;

- battery
- charger

These are the key elements that create the fire hazard and therefore limiting the certification to these parts would overcome the issues we are currently facing in accessing three different standards for the certification process, mechanical elements of the bike testing and testing differences across international jurisdictions, interchangeable parts and the personalisation of individual vehicles.

This modification to the certification requirements would also overcome conflicts between importation and sales laws that NSW has created through the declared article process.

It will also reduce the impact on consumers by allowing ongoing access to quality e-bikes.

In the absence of this overarching change, the Industry has identified several amendments that need to be made to the original published gazette.

1 – Compliance with complete clause 4.2.

The BIA has specific concerns with the modified order regarding compliance with AS/NZS15194:2016 or EN15194:2017+A1:2023

The BIA acknowledges that the specification to meet clause 4.3 (mechanical testing) was removed from the Declared articles requirements due to;

- The intention to regulate e-micromobility vehicles under the G&E Act was to ensure that these vehicles, their associated batteries and chargers are electrically safe. While mechanical safety of e-bikes is also crucial, it is not the focus or expertise of NSW Fair Trading as the electrical product safety regulator.
- Negative impact on the ability to modify/personalise e-bikes which is a key component of the bicycle sector
- Reduced clarity on model definition

Although the specific mechanical testing section of compliance to ASNZS15194:2016 or EN15194:2017+A1:2023 has been removed from the requirements, a detailed evaluation of clause 4.2 has identified considerable mechanical testing requirements.

EN15194 4.2.6 / AS15194 – 4.2.3.3 – Wiring
EN15194 4.2.7 / AS15194 - 4.2.3.4 – Power cables and conduits

Requires the inspection of each model and sized frame for sharp edges and contact with burrs, conduits, cable entries, knockouts, rough surfaces and contact of wires with moving parts.

It also requires testing of the flex of each size of frame to ensure cables and connections are not ‘stretched’.

EN15194 - 4.2.10 / AS15194 – 4.2.3.7 – Mechanical strength test

Non-detachable batteries - Requires the physical stress and testing of batteries while mounted on each shape and sized frame/bike rack.

Detachable batteries are not required to be tested with the frame

- The majority of e-Bike frames currently feature detachable batteries, but e-bikes can feature fixed batteries

EN15194 - 4.2.16.12 – Failure mode

To achieve a successful outcome the bike must be ridden at 10kmh without any power.

Clauses EN15194 4.2.6 / AS15194 – 4.2.3.3 and EN15194 4.2.7 / AS15194 - 4.2.3.4 would require the physical shipping of a large number of different size and shaped bicycle frames to independent testing laboratories for inspection creating significant cost for minimal benefit (any change in shape/angle/size of frame would require a frame to be shipped).

Any concern created through sharp edges or damage to cables, would be suitably managed by the requirements and testing through Clause EN15194 4.2.1 and ASNZS15194 4.2.1

EN15194 - 4.2.10 / AS15194 – 4.2.3.7 – It is expected as the market for 'integrated' batteries grows, there would be a considerable requirement to ship a large number of bikes with a variety of frame sizes to test for impact testing.

Battery case strength would still require testing through detached battery testing requirements.

Clause EN15194 - 4.2.16 would require the shipping of a large number of bikes for testing of the ability for the bike to be ridden after all power is removed from the bike.

This clause does not test any element of the electrical system but is included under the electrical testing requirements due to its reference to power.

RECOMMENDATION

It is recommended that along with the withdrawal of the requirement to test in EN15194;

Clause 4.2.15, and
Clause 4.3

The Office of Fair Trading withdraw the requirement to undertake the mechanical testing requirements in Clause 4.2;

Clause EN15194 4.2.6 / AS15194 – 4.2.3.3,
Clause EN15194 4.2.7 / AS15194 - 4.2.3.4 Clause EN15194 - 4.2.10 / AS15194 – 4.2.3.7, and
Clause EN15194 - 4.2.16

2- Compliance with clause 5 and clause 6

Compliance with clauses 5 (Labels) and 6 (Instructions)may be determined by NSW Fair Trading or a Recognised External Approval Scheme (REAS) directly by inspection, without requiring independent testing.

Under the wording provided in the consultation paper to clause 5, each variation of an e-Bike with different electrical components motor, battery, controller or battery s (dependent on definition of a model) – would be required to be shipped to an authorised certifying agency in Australia for physical inspection of the stickers.

This process would require unnecessary costs and time delays to achieve the simple process of inspecting stickers.

To achieve compliance with Clause 6, an information manual for each variation of a bike, battery, motor (depending on the definition of a model), would be required to be shipped to an authorised certifying agency in Australia for physical inspection.

This process will again require unnecessary costs and time delays to achieve the simple process of inspecting information documents.

As many owner's manuals covers several models, languages and regions, a further concern to requiring certification of the manual is that any changes to mechanical elements of the bike, would require 'modification' to the manual which would require re-certification of the manual/bike. An example of this would be a change in front fork model would require modification to advice provided to adjust suspension system.

This process does not include any inspection or certification of the information that is required under the Officer of Fair Trading's information standard.

Office of Fair-Trading enforcement officers will be required to check the provision of information under the information standard separately to the certification process, while making in-store visits.

All costs associated would be required to be passed to the consumer.

RECOMMENDATION

Clause 5 and Clause 6 are withdrawn from the certification requirements and are referred to as 'self-assessed' with checking undertaken by enforcement officers at the same time as assessing the information standard requirements

3- Definition of a model

Throughout the development and communication process of the new declared article requirements of an e-Bike, and due to the variations in testing that have been required, the definition of a model has not been clearly and succinctly identified.

This has been exacerbated by the variations in the testing and definitions within each of the three standards that e-bikes can be certified against.

The definition of a model has also been challenging due to the traditional definitions of a model within the bicycle sector and the mechanical variations within each range of an e-Bike.

With our proposed recommendations in section 1 to further remove mechanical testing elements of clause 4.2, the definition of a model can be and must be clearly identified.

For the purposes of the declared article requirements the elements that are being tested through the proposed tests are:

- An electrical drive system including
  - Battery
  - Battery charger
  - Motor
  - Controller

- The model test should include all variants including
  - Battery capacity
  - Charger capacity
  - Controllers
  - Software variations

RECOMMENDATION

The NSW Office of Fair Trading define a model, for the purposes of a declared article, of an e-Bike as;

- The electrical drive system including
  - Battery
  - Battery charger
  - Motor
  - Controller

4 - Implementation timeframes

The announcement of the declared article requirements for e-bikes was announced after a 2-week consultation phase on the 2nd of August 2024.

The announcement identified the key dates

- **1 February 2025** – All declared e-micromobility vehicles, batteries and chargers must **comply with the safety standards** before supply.
- **1 August 2025** – All declared e-micromobility vehicles, batteries and chargers must be **tested and certified** before supply.
- **1 February 2026** – All declared e-micromobility vehicles, batteries and chargers must be **marked** before sale.

The NSW testing and certification process is new to the sector as it is not a requirement in any other jurisdiction in the world.

The average supply and delivery timeframe for brands from order to delivery of e-bikes in Australia in retail stores is generally accepted as a minimum of 9-12 months.

It is now less than 90 days until bikes must be ready for sale in NSW under the declared article's structure, and the Office of Fair Trading is yet to finalise what is the testing protocol, let alone publish the Gazette to allow testing labs to understand and physically adopt the process to undertake.

- Feedback from testing laboratories in China and Taiwan highlight that these businesses will not start the process to evaluate and develop the testing process and testing methodologies to achieve NSW requirements that is confined to electrical systems only, until the changes are published in the NSW Gazette.

There is also significant confusion in the certifying agencies how they will go through the certification process.

The manufacture of new models has been delayed as brands 'hold back' factories from making bikes to ensure they meet the requirements, or brands have reduced orders as they are unsure of the requirements to sell into the NSW market.

<u>E-bikes for the NSW market -</u>

If the bike needs to be manufactured, they may arrive in early 2025. These bikes will also be outside the 'normal' manufacturing window and be 'competing' with Northern Hemisphere orders for manufacture and delivery.

If bikes are already here, the testing and certification process will take significant time (as all brands will be starting the process at the same time) – along with the requirement to retrospectively 'sticker' bikes (which technically shouldn't be done under the certification process).

If 'lucky', the testing requirements may be published in the Gazette at the start of May, leaving 60 days to undertake the process which in reality should be 12 months.

The industry needs an extension of time to achieve the requirements, if it is not granted there will be a vacuum of available e-Bikes in NSW from 1st Aug till at least the start of 2026.

If an extension is not granted, the industry and consumers will suffer because of failures in the implementation of the Declared Articles process.

The third milestone date is the 1st of February 2026 and joining the delivery of the second and third implementation stages to that date would provide time for the industry to implement the required changes.

RECOMMENDATION

Move the implementation of the testing and certification requirements to the 1st of February 2026, to align with the implementation of the marking requirements.

5 – EN17860:2022 – EMTB Standards

The European market is moving to standards for specific e-Bike types.

This has become a critical factor due to the safety requirements relating to the mechanical elements of the standard impacting the way the bicycle is used and physical stresses put through the bike.

EN17404:2022 (E-Mountain bike) is the current standard that has started to be used for E-MTB across Europe.

EN17404 utilises identical electrical testing protocol to EN15194 but has an updated and much more stringent mechanical testing component to enable evaluation against the 'use' of the bike.

EN17860:2024 (Carrier Cycles) parts 1 to 3 is the current European standard that was adopted at the end of 2024 for the testing of cargo bikes, parts 4-7 are expected to be ratified in 2025.

EN17860 utilises the same electrical framework as EN15194 but has been updated to evaluate the load carrying capacity.

European bike brands are moving away from testing to EN15194 to bike type specific standards but continue to utilise the same electrical framework as EN15194 under the different named standard.

The declared article process needs to be able 'pick-up' the desired electrical testing protocols that are being utilised by alternate standards that have been updated to improve mechanical testing protocols.

As Europe moves away from EN15194, if the updated standards are not included, it will increase the costs of testing for Australian brands as they will be required to undertake the complete EN15194 testing (rather than partner with parent brand).

RECOMMENDATION

NSW Office of Fair Trading acknowledge and accept testing to standards which utilise identical electrical testing protocol as EN15194:2017+A1:2023

Specifically

- EN17404:2022
- EN17860:2024

Further Issues of consideration

Access to AS15194 authenticated test reports

Due to the age of the AS15194:2016 and the fact that it is a modified adoption of an outdated and superseded standard EN15194:2009, CNAS as the national accreditation service for conformity and assessment in China has indicated that it will not authenticate any test reports from Chinese based testing laboratories based on that standard.

At this time, suppliers have not sourced a testing lab that has the capacity to complete an authenticated report, and as the majority of E-bikes for the Australian market are made in China, the challenge to identify a lab to test to AS15194:2016 has not yet been overcome.

Without the authenticated reports, e-Bike brands are unable to certify models to 1 of the standards mandated by The NSW Office of Fair Trading.

For information – e-bikes manufactured in China are not subject to import tariffs when imported into Australia, while e-bikes manufactured in Europe are subject to import tariffs.

Grandfathering of current stock

The industry will not be able to meet current timelines due to the lack of clarity and direction regarding the testing and certification requirements from the NSW Government. We must be able to sell current stock on hand in NSW after the 1st of August.

If this is not permitted, there will be very few certified bikes available for sale, especially in the lead up to the busy Summer period which may force some stores to close their doors.

Clarification of UL2849 requirements

UL2849 is an American based testing standard.

The majority of products tested under this standard are subject to variations in road laws and usage requirements in America. New York specifically has a variety of potential variations and requirements

Clause 1.4 – Bikes to be sold in New York are tested to an aligned mechanical structure protocol under Ul2849

- The NSW Government must indicate that this is not a requirement for REAS certification

Clause 40 – Start up mode is not identified in the American 3 Class road law legislation across any state.

Clause 41.2 – American Class 2 – e-Bike legislation does not require that the bike does not activate while pedalling in 'reverse'.

Clause 41.3 – American Class 2 – e-bikes do not require that the motor ceases operating when the rider ceases pedalling.

Clause 41.4 – American Class 2 – e-bikes do not require the motor to cease operation when the brakes are activated.

Under UL2849, testing to clauses 40 and 41.4 must be undertaken if fitted – but it is not a requirement to fit them.

Under Ul2849, testing to clauses 41.2 And 41.3 are not required if the bike is not being sold as an EPAC.

As a direct result of the Class 1,2 and 3 road categorisation requirements, many bikes for the American market are not fitted with or manufactured to pass these Clauses.

Due to cost saving approaches, and the minimal size of the NSW e-Bike market, many brands will utilise test reports already undertaken for the American market.

Once tested, the bikes cannot be modified prior to sale.

These test reports will pass the REAS requirements, but the bikes cannot be sold as road legal.

This process will create the situation that bikes that are certified under the NSW declared article scheme may not pass the basic requirements to meet the definition of an e-Bike in NSW to be road legal.

There are already examples of this on the Australian market.

Conclusion

The bicycle industry is supportive of the intended outcomes of the process being implemented by the Office of Fair Trading, improving quality and safety for consumers. At the same time, we are disappointed that the Office has chosen not to address the serious consumer issue, causing injury and death, of the sale of over-powered e-bikes and the promotion by brands of processes to encourage 'non-road legal and dangerous' modifications.

The NSW Fire Authority data has indicated that the brands that are the leading cause of fire in NSW operate through online sales directly from offshore to individual consumers or the use of DIY kits.

In a presentation to the industry, Office of Fair-Trading staff indicated those categories, the leading cause of fires, will be 'challenging' to enforce and monitor compliance.

This process is therefore adding extra administrative burden and costs to the brands that are already acknowledged worldwide for their quality and safety, while having limited impact on the key causes of fires in NSW.

The lack of clarity, confusion about the supply process of product and the 'unique' nature of NSW e-Bike definitions has already caused two major brands to withdraw all e-bikes for sale from the NSW market.

The Office of Fair Trading needs to recognise that in such a small market, the negative impact this process is having. It needs to

- Modify the testing requirements
- Simplify the certification requirements
- Formalise a model definition of what is to be tested / what is a model
- Provide an extension of time for the industry to implement
- Include international standards that utilise aligned electrical testing protocols

If the NSW Government does not address the concerns raised, more quality brands will withdraw from the NSW market and consumers will be left with poor quality brands that 'are challenging' to police.

The final change that needs to happen is the harmonisation of e-Bike legislation.

The 2021 amendment to the Motor Vehicle Standards Act, which removed the requirement for bikes to meet any safety standards at the point of import, and the fragmented nature of e-Bike legislation and confusion, triggered by 2023 NSW legislative changes (against industry advice), is the core driver of many issues relating to e-bikes.

Until that is corrected, the problem of fires will not be addressed.

As mentioned in my introduction, due to the fragmented e-Bike definitions and legislation across Australia, any bike that is sold as 500w in NSW has either been imported utilising false information or a certified product has been modified prior to sale.

Any bike certified to 500w is also illegal to use in any state bordering NSW – regardless if it is restricted.

Consistent import legislation, sales legislation and road use legislation across Australia would have a far greater impact on consumer outcomes than the individual state department approaches currently underway.

NSW is the state that by 'going alone' has had the greatest impact on this fragmentation and confusion. This outcome was predicted by the NSW Minister for Transport of the time (2022), in correspondence to his federal counterpart. Even with that knowledge, the NSW Government proceeded with changes to e-Bike regulations and a reduced experience for the consumer and proliferation of poorer quality products has been the outcome.

Recent experience has demonstrated that states 'going alone' has proven to create more problems than it solves in the e-Bike sector.

We will continue to work with the department to achieve the most positive outcomes for the consumer, but the potential impact of the declared article process will be significantly reduced because of the current fragmented approach to e-bikes in NSW and across Australia.