

Public Safety and Protection Committee

Agenda



Date: Tuesday, 20 December 2022

Time: 10.00 am

Venue: Beira Room, City Hall, College Green, Bristol,
BS1 5TR

Distribution:

Councillors: Christine Townsend (Chair), Amal Ali (Vice-Chair), Marley Bennett, Chris Davies, Richard Eddy, Jonathan Hucker, Brenda Massey and Guy Poultney

Issued by: Jeremy Livitt, Democratic Services
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Date: Monday, 12 December 2022



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Agenda

1. Welcome and Safety Information

(Pages 4 - 5)

2. Apologies for Absence and Substitutions

3. Declarations of Interest

To note any interests relevant to the consideration of items on the agenda.
Any declarations of interest made at the meeting which are not on the register of interests should be notified to the Monitoring Officer for inclusion.

4. Minutes of the Previous Meeting held on 25th October 2022

To confirm the above minutes as a correct record for signing by the Chair.

(Pages 6 - 9)

5. Public Forum

Up to 30 minutes is allowed for this item.

Any member of the public or Councillor may participate in Public Forum. The detailed arrangements for so doing are set out in the **Public Information Sheet** at the back of this agenda. Public Forum items should be emailed to democratic.services@bristol.gov.uk and please note that the following deadlines will apply in relation to this meeting:-

Questions - Written questions must be received 3 clear working days prior to the meeting. For this meeting, this means that your question(s) must be received in this office at the latest **by 5pm on Wednesday 14th December 2022**.

Petitions and Statements - Petitions and statements must be received on the working day prior to the meeting. For this meeting this means that your submission must be received in this office at the latest **by 12 Noon on Monday 19th December 2022**.



**6. Suspension of Committee Procedure Rules CMR10 and CMR11
Relating to the Moving of Motions and Rules of Debate**

Recommended – that having regard to the quasi-judicial nature of the business on the Agenda, those Committee Procedure Rules relating to the moving of motions and the rules of debate (CMR10 and 11) be suspended for the duration of the meeting.

**7. Consideration of Lower Age Limit In Respect of Hackney
Carriage Vehicles and Current Global Impacts**

(Pages 10 - 19)

**8. Consideration of a Request From Clipper Automotive To Accept
Retrofitted All-Electric Drivetrain LTI TX4 Vehicles for Licensing**

(Pages 20 - 36)



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You will not be able to present a public submission at the meeting at the current time. We're looking into options for increasing public participation at meetings held using video conferencing, including being able to present a statement or ask supplementary questions using Zoom. We hope to have this in place in by late May 2020.

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- The statement is received no later than **12.00 noon on the working day before the meeting** and is about a matter which is the responsibility of the committee concerned.
- The question is received no later than **5pm three clear working days before the meeting**.
- Any statement submitted should be no longer than one side of A4 paper. For copyright reasons, we are unable to reproduce or publish newspaper or magazine articles that may be attached to statements.

By participating in public forum business, we will assume that you have consented to your name and the details of your submission being recorded and circulated to the Committee and published within the minutes. Your statement or question will also be made available to the public at the meeting to which it relates and may be provided upon request in response to Freedom of Information Act requests in the future.



We will try to remove personal and identifiable information. However, because of time constraints we cannot guarantee this, and you may therefore wish to consider if your statement contains information that you would prefer not to be in the public domain. Public Forum statements will not be posted on the council's website. Other committee papers may be placed on the council's website and information within them may be searchable on the internet.

During the meeting:

- Public Forum is normally one of the first items on the agenda, although statements and petitions that relate to specific items on the agenda may be taken just before the item concerned.
- There will be no debate on statements or petitions. Public Forum will be circulated to the Committee members prior to the meeting and then noted at the meeting.
- Please note that only written submissions can be considered at this time.

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Bristol City Council
Minutes of the Public Safety and Protection
Committee



25 October 2022 at 10.00 am

Members Present:-

Councillors: Christine Townsend, Marley Bennett (Chair for the duration of the meeting), Chris Davies, Richard Eddy and Jonathan Hucker

Officers in Attendance:-

Lynne Harvey (Legal Advisor), Abigail Holman (Licensing Policy Advisor) and Jeremy Livitt (Democratic Services)

8 Election of Chair

RESOLVED – that, in the absence of the Chair, Councillor Marley Bennett be elected as Chair for the duration of the meeting.

9 Welcome and Safety Information

The Chair welcomed all parties to the meeting and explained arrangements for the emergency evacuation procedure.

10 Apologies for Absence and Substitutions

Apologies for absence were received from Councillor Amal Ali and Councillor Tessa Fitzjohn.

11 Declarations of Interest

There were no Declarations of Interest.



12 Minutes of the Previous Meeting held on 7th June 2022 (AGM)

It was noted that there were outstanding vacancies on this Committee which urgently needed to be filled. The Democratic Services Officer stated that he would contact the relevant party groups to remind them of the need to fill these vacancies as soon as possible.

RESOLVED – that the minutes for the meeting held on 7th June 2022 be confirmed as a correct record and signed by the Chair.

13 Public Forum

There were no Public Forum items.

At this point in the meeting, Councillor Christine Townsend attended. Councillor Bennett continued as chair for the duration of the meeting with the agreement of the Committee.

14 Consideration of Lower Age Limit In respect of Hackney Carriage Vehicles Current Global Impacts

The Team Leader (Licensing) introduced this report and made the following comments:

- Officers were proposing a number of changes to the existing rules on the age limit for vehicles
- Due to a combination of reasons, including Ukraine and Brexit, The supply of new vehicles was limited as much of the wiring and chips were affected by the war in Ukraine and worldwide shipping delays.
- There was a need to reduce older more polluting vehicles
- The cost of a brand new vehicle for trade was now high, especially since a Euro 6 was required in view of the forthcoming introduction of the Clean Air Zone on 28th November 2022. In addition, most Local Authorities were now moving towards emission based standards
- The number of hackney carriage vehicles was approximately 400, with around a quarter which weren't CAZ compliant.
- A charge of £9 per day would be difficult for carers and a further reduction in the number of available Hackney Carriage Vehicles would put Home to School Transport at risk
- The latest check of one of the main suppliers had indicated that there were only 6 new vehicles which met the required standards, all of which were already reserved. There was a very limited supply of second hand vehicles
- Officers recognised the cost burden for this on the trade and the impact of issues such as pollution



- The upper age limit for vehicles was 3.5 years. However, as a result of the recent changes, drivers were attempting to get more out of their existing vehicles. However, since there were a significant number of drivers who worked for multiple operators or shared the lease of a vehicle, a decrease in the number of drivers did not necessarily result in an impact on the number of vehicles

The Committee considered whether not to proceed immediately with the proposed changes or whether to hold a short consultation period (approximately 4 weeks) to assess these. It was noted that the proposal required vehicles to meet the Euro 6 standard or better rather than setting an age limit.

The legal officer to the Committee advised that the Department of Transport guidance referred to vehicle emission and recommended no arbitrary age limits. The Committee noted that the less risky option would be to hold a short consultation to change the policy whilst keeping the situation under review. Since each individual case had to be considered on its own merits, any blanket delegated authority would be open to challenge and increase the risk of Judicial Review.

In response to Councillor's questions, officers confirmed that the issues arising from the situations in Ukraine impacting on wiring were not immediately apparent. Similarly, the gap in the availability of chips had not been initially recognised.

The Committee further noted that, if a consultation period was held, this would not prevent any outstanding applications being made in the meantime.

Councillors discussed the situation further and the majority agreed that a brief consultation period would be the best option since the Clean Air Zone was only a month away.

It was moved by Councillor Marley Bennett, seconded by Councillor Chris Davies and upon being put to the vote, it was

RESOLVED (4 for, 1 against) –

- (1) that a consultation is carried out on the proposed changes to vehicles set out in the report with officers to determine the method of consultation in accordance with existing practice
- (2) that a report be brought back to a future Committee meeting at 10am on Tuesday 20th December 2022 with the results of the consultation and a recommendation concerning any proposed changes to existing policy.

15 Taxi and Private Hire Licensing Policy - Medicals

The Team Leader (Licensing) introduced this report and made the following comments:

- Officers were not proposing a change to the Group 2 medical since it was recognised that a higher standard was appropriate
- However, since under the current arrangements, it required a GP at the registered medical practice to complete the medical. Previously other GPs had been permitted to complete the medicals but were unable to get access to medical notes



- Under DTTE best practice, the Government amended the Road Traffic Act to allow other medical professionals to complete certain reports. They already permitted a GP in a different medical practice to carry out a medical assessment as long as they had access to the relevant medical notes
- Other Local Authorities were already operating this practice. However, since the Group 2 Medical Licence was not codified, it varied across Local Authorities

The Committee agreed with the proposal made by officers in the report.

Councillor Marley Bennett moved, seconded by Councillor Richard Eddy and upon being put to the vote, it was

RESOLVED - that the recommendations contained in the report be approved.

The meeting ended at 10.40 am

CHAIR _____



BRISTOL CITY COUNCIL

PUBLIC SAFETY AND PROTECTION COMMITTEE

20 December 2022

Report of: Executive Director, Growth and Regeneration

Title: Consideration of lower age limit in respect of Hackney Carriage vehicles and current global impacts

Ward: Citywide

Officer Presenting Report: Abigail Holman, Licensing Team Leader

Contact Telephone Number: 0117 3574900

RECOMMENDATION

The committee are recommended to:

- (1) consider the results of the consultation and,
- (2) To make a temporary change to policy concerning the age limit for Hackney Carriage vehicles by removing the current age limit of three and a half years.

Summary

1. A report was brought before the committee on 25 October 2022 outlining the issues around the availability of wheelchair accessible vehicles which meet the current Hackney Carriage Vehicle policy requirements. The issues are outlined below.
2. Hackney carriages play an integral part of the local public transport infrastructure. They provide a flexible form of public transport and play an important role in improving accessibility as the whole fleet is wheelchair accessible.
3. In July 2021 the Council introduced its revised Hackney Carriage and Private Hire Licensing Policy. The policy brought together in a single document the separate vehicle and driver policies and replicated the existing vehicle policy with few changes.
4. The policy in respect of Hackney Carriages details a number of specifications that all new or replacement Hackney Carriages must comply with.

1. *Any vehicle presented for licensing on the first occasion, that is not replacing an existing licensed Hackney Carriage, must be an Ultra-Low Emission Vehicle (ULEV) as well as meeting the specification set out in the remainder of this policy. Vehicles presented for licensing on the first occasion, which are replacing an existing licensed Hackney Carriage (that is not a ULEV), do not have to be a ULEV. Replacements for existing licensed Hackney Carriages that are a ULEV must also be a ULEV.*

Note: A ULEV is a vehicle with tailpipe CO2 emissions of 75 g/km or less

Age Limit Policy

2. *Vehicles presented for licensing on the first occasion shall be EURO 6 or higher standard and less than three and a half years old from the date of registration or, in respect of vehicles that have been imported other than as new into the United Kingdom, less than three and a half years old from the date of manufacture (In the remainder of this policy reference to date of first registration with regard to vehicles which are imported should be construed as date of manufacture).*
5. This means that any application for a Hackney Carriage vehicle which is replacing an existing vehicle must be less than three and a half years old, and may be diesel, petrol, hybrid, or ULEV.
6. A request has been received from trade representatives which requests that the initial age limit for replacement vehicles is reconsidered. A copy of their concerns is included at Appendix A.

Context

7. The policy was originally introduced in 2017 with a number of factors in mind. It was recognised that older more polluting vehicles were adding to the concerns about air quality standards within Bristol and requiring all newly licensed vehicles to meet a higher Euro standard would assist with reducing pollution in the areas of highest concern. Alongside this the Council introduced a maximum age limit for vehicles of three and a half years when they were first licensed, recognising the cost burden that a requirement for a brand-new vehicle would place on the trade.

8. The Department for Transport Best Practice Guidance acknowledges that vehicle licensing policies should support local environmental policies and acknowledges that this is significant in designated Air Quality Management Areas, which in Bristol includes the city centre area.
9. In March 2022 the DFT produced a draft update of their best practice guidance. The Council responded to a consultation on this document and the results have not yet been published. The guidance is non-statutory and the Council is not required to have regard to it, however it has been a useful document to outline best practice in a number of areas. In respect of vehicles age limits and emissions the draft guidance states:

8.28 The frequency of testing required (see 'frequency of vehicle tests' above) to ensure the ongoing safety of vehicles is a separate issue to the setting of maximum age limits at first licensing, or maximum age limits beyond which an authority will not licence a vehicle. The setting of an arbitrary age limit may be inappropriate and counterproductive and result in higher costs to the trade and ultimately passengers. For example, a maximum age for first licensing may have adverse unintended consequences; a five-year-old used electric vehicle will produce less emissions than a new Euro 6 diesel or petrol fuel car – enabling the trade to make use of previously owned vehicles will assist it to transition more rapidly to zero emission vehicles and improve air quality

8.29 Licensing authorities should not impose age limits for the licensing of vehicles but should consider more targeted requirements to meet its policy objectives on emissions, safety rating and increasing wheelchair accessible provision where this is low.

10. In relation to environmental considerations the draft guidance states:

8.51 Taxis and private hire vehicles that operate predominantly in urban areas can be significant contributors to poor local air quality, if not properly maintained and regularly checked, due to their higher usage. This might suggest that emissions testing for vehicle that use petrol and diesel (including hybrids and range extenders) should be carried out more frequently than the annual MOT vehicle test/inspection.

8.52 Local authorities should carefully and thoroughly assess the impact of vehicle emission requirements to enable the sector to plan for the future. The short-term objective should be to mitigate

the harm from internal combustion engines through the setting of high EURO emission standards e.g. EURO 6 but, in the long-term, the trade will have to transition to zero emission vehicles. Licensing authorities should set out their long-term plan as soon as possible.

8.53 In response to local air quality concerns, many licensing authorities are considering how to support the use of ultra-low or zero emission vehicles given the growing range of vehicles available. As stated in the 'Vehicle age limit' section, greater flexibility regarding the age of vehicles licensed can result in more rapid improvement in air quality than mandating new 'clean' internal combustion engine vehicles.

11. There have recently been worldwide delays on shipping and producing the components that are used in many types of vehicles for a number of reasons. Bristol City Council licensed Hackney Carriages must be wheelchair accessible and have European Community Whole Vehicle Type Approval, which limits the range of vehicles available to applicants.
12. A shortage of electronic chips has curtailed production on vehicles, meaning new wheelchair accessible vehicles have been in limited supply, fuelling demand on the market for second-hand wheelchair accessible vehicles, not just in the taxi trade. Additionally other local authorities have been amending their vehicle policies to move towards emissions-based standards, again increasing demand for certain types of vehicle.
13. All of these factors, combined with the age limit on the age of the vehicle when first licensed, is significantly limiting the number of second-hand vehicles available to applicants.

Other Considerations

14. Clean Air Zone
Bristol City Council is introducing a clean air zone in the city centre area on 28 November 2022. The clean air zone is being introduced to ensure Bristol meets the legal limits on pollution as soon as possible. The clean air zone requires all diesel vehicles to be Euro 6 or better, and all petrol vehicles to be Euro 4 or better, in order not to be charged daily for entry into the area.
15. The current number of licensed Hackney Carriages is approximately 400. Approximately 100 of these are Euro 5 vehicles, most of which are diesel and will not be clean air zone compliant. Around 35 are approaching the upper age limit of 10 years and will need to be

replaced in the next year. Some vehicles are not near their upper age limit, and whilst licence holders are not obliged to replace their vehicle before the clean air zone comes into force, they will of course be charged the daily fee if their vehicle is not compliant.

16. School transport

Bristol City Council provides home to school transport for a large number of students and carers every day. A number of these journeys require a wheelchair accessible vehicle in order to safely transport those students with disabilities, or additional needs. If there were a reduction in licensed vehicles this would put the home to school transport service at risk of having insufficient vehicles to fulfil their obligations. They have already experienced some shortages due to the decrease in taxi and private hire drivers occurring across the country in the aftermath of the pandemic.

17. The Service has conducted extensive research and can verify there is a significant lack of second-hand and new WAV compliant vehicles meeting our specification- this includes speaking with the specialist vehicle converters. If the age limit of 3 ½ is lifted this does increase the availability of second hand, CAZ compliant vehicles. There is no recommendation to increase the upper age limit of 12 years.

Consultation

18. The committee determined on 25 October to undertake a short consultation with licensed drivers, proprietors and operators to seek their views. This consultation took place between 1 November 2022 and 30 November 2022.

19. Ten comments were received in response to the proposal. Eight were in favour of the proposal, and of those four requested the proposal also be extended to private hire vehicles. Two of the overall responses felt it was unfair that the proposal related only to hackney carriage vehicles. They did not express their thoughts on the hackney carriage aspect. A copy of all the responses, anonymised, is attached at Appendix B.

Recommendations

20. Officers request that the committee consider the information received as a result of the consultation as well as that previously presented, and:

Make a change to the policy concerning the age limit for Hackney Carriage vehicles, removing the lower age limit of three and a half years.

All other elements of the policy would remain in force and any vehicle not compliant with the other requirements would be referred to the committee for determination.

The proposed wording would be as below:

Vehicles presented for licensing on the first occasion shall be EURO 6 or higher standard

This replicates the wording in the current policy and simply removes the end of the paragraph referring to the age limit.

The policy would be brought back before the committee for further consideration once the global shortages are resolved.

Appendices – As links or attachments

Appendix A – Request from trade representative

Appendix B – Responses to consultation

Request from Trade Representative

I have a list of drivers that are having difficulty sourcing new or second hand cars and there are many more out there. Cab Direct, our main Taxi retailer, is out of cars and is not taking orders because of a world wide shortage of parts, second hand Wheelchair cars up to three and a half years are scarce.

This is going to have a huge impact on drivers who want to change to **Euro 6** to avoid CAZ charges as the charges are £9 a day. Other drivers have cars coming to the end of life and have to change.

A bit of background information

Hackney carriages built after September 2015 were given a 12 year life to drive taxis as they were **Euro 6**.

Hackney carriages built before September 2015 were given a 10 year life to drive taxis because they were of a lower **Euro 5** standard. This latter group are the vehicles on our list. The owners of these vehicles have had only as little as 7 and half years use for vehicles that have ended up costing them over 30 thousand pounds and now they have to change to avoid charges. You may imagine it's hard to sell these blue painted Cabs on the second hand market as they don't interest buyers and are worth very little.

Many of these drivers may continue to drive through the Caz zone continuing to pollute Bristol's atmosphere so I believe a solution should be looked into to help both our environment and drivers.

I do understand that there is a 4 grand grant but that is not enough to make many taxi drivers change nor does that solve the availability problem.

Drivers that I have come across have stated they have little interest in the LEVC as it will cost over 70k and has an impractical real life electric range of only 45 miles which in turn takes 45 minutes to charge, a full charge is £14 electric that is equivalent to only 32mpg and hardly economical.

They will be forced out of a job if we are made to buy the LEVC. We recently had a fare rise and to keep in competition with app firms we opted to kept our basic meter fares low at £2.20 per mile, LEVC taxis would require London Rates which are currently about £4 a mile and are not something customers would welcome but that is only if the council is even willing to pass those rates.

We are waiting for up to date eclectic Wheelchair Taxis from VW and Peugeot but it will take 18 months for dealers to get them in stock as they are in the early stages. These advanced electric vehicles will have a 200 mile range and take only 30 minutes to charge. These cars will definitely attract drivers and are much cheaper.

The help needed

We ask your help if you could increase the replacement vehicle age limit from 3 and a half years to 5 years, these vehicles will be **Euro 6** compliant. There are many 4 and 5 year old wheelchair cars on the market that have less than 20 thousand miles that would make great cabs. Please do not see this as a lowering of policy standards as it will be helping clean up pollution and give help to drivers that lost money on **Euro 5** cabs. This move will

actually help modernize the fleet by making drivers get rid of **Euro 5** vehicles and move to **Euro 6**. As mentioned the only reason drivers are asking is there is a shortage of cars.

It is more about we have little other choice rather than a money saving one, I really don't want to see more Hackneys leaving the trade. I believe help should be given because the number of hackneys is dwindling, we used to have 802 in 2013, now the number is 354 or less, to lose another 60 or 90 cars is going to greatly affect wheelchair users. Many of these drivers work with booking companies that need our service for disabled customers and there is a reliance on blue cabs as we cover most of the wheelchair work for booking firms in Bristol.

Saif Hussain Chairperson
BBLTA, Bristol Blue Licensed taxi Association

Response 1

It's a valid point, but it's not only affecting hackney carriage, but also most of private hire drivers. I personally welcome the decision to remove the limitation until this problem solved what across-the-board not just for Hackney carriage.

Response 2

Due to a shortage or not even availability of wheelchair accessible new vehicles or even three and half years old vehicle, to suspend the policy will help us to have at least more options to find a car.

Response 3

This would be so welcomed. Getting parts is expensive and so is cars. The sooner this comes in the better.

Response 4

This is unfair on private hire drivers as cars especially petrol and hybrid cars are very expensive especially in these hard times should make both policies same

Response 5

Hi can we please have the private HIRE vehicle license policy amended as it's completely unfair that south Gloucestershire is allowing 5 years from the date of registration also DIESEL were as Bristol policy restrictions don't make any sense for the clean air zone as it is allowing diesel vehicles to enter but not letting us Bristol PRIVATE HIRE drivers purchasing a vehicle as a lot of drivers are facing financial difficulties due to the Rise in south Gloucestershire drivers in Bristol it would be really appreciated thank you.

Response 6

I would like to thank you for considering the recommendation put forward by the Hackney Carriage Representative Team.

This in my idea is very important matter given the current situation surrounding getting hold of new and second-hand vehicles with this particular age limit that would also meet all the other aspects of the vehicle licensing policy.

I would suggest that vehicles registered in late 2015 (65 plate) and newer which would meet the Euro 6 criteria should be considered to replace old Euro 5 vehicles.

I think this would be much more affordable for drivers who want remain as taxi drivers in this difficult financial time.

Euro 6 wheelchair accessible vehicles of 5 years old and newer are very difficult to find and very expensive if and when found.

I therefore think that the best thing the council can help with these drivers is

to extend the age limit from when first licensed to Euro 6 vehicles registered from late 2015 (65 plate).

Response 7

Hi welcome to this decision withdrawal age limitation on hackney carriages it will help us to change the vehicles low emission

Response 8

I would like you to consider the same policy for private hire too as the demand is high following the vehicle shortage . Second hand cars prices are unexpectedly high and new cars have long delivery dates. Very confusing situation and i would request you to please consider the private hire too in this policy.

Response 9

I think this proposal is good but it would be good for private because in Private hire we have same issue as Hackney Carriage drivers.
Please do take this into consideration when updating your policy.

Response 10

It is time that Bristol City Council licensing department understands that Hackney Driver's went through a bad time for the last few years and still experiencing difficulties comparing with private hire and other companies in the trade

Firstly we were forced to spray our vehicle blue at our own cost then now we have to pay air clean zone charges which affects a lots of drivers

It would be nice that Bristol City Council licensing office reconsider their decision and allow more time for drivers to replace their existing vehicles when the vehicles reached 12 years old.

We all aware that vehicles under 3.5 years are at the moment difficult to find and it would be unfair to force drivers who have financial commitment to buy new vehicles to be able to honour their financial agreements

It would be a great idea to allow cars over 3.5 years old to be licensed as Hackney carriage otherwise there will shortage of wheelchair vehicles and it will certainly put taxi companies in a very difficult situation to provide service for schools and wheelchair customers

I hope I provided a very clear concern for most taxi drivers and I expect the Bristol City Council licensing office will note of all suggestions and make a satisfactory decision for the trade and all Hackney drivers

I look forward to receiving your help and assistance to sort out these problems in due course

BRISTOL CITY COUNCIL

PUBLIC SAFETY AND PROTECTION COMMITTEE

20 December 2022

Report of: Executive Director, Growth and Regeneration

Title: Consideration of a request from Clipper Automotive to accept retrofitted all-electric drivetrain LTI TX4 vehicles for licensing.

Ward: Citywide

Officer Presenting Report: Abigail Holman, Licensing Team Leader

Contact Telephone Number: 0117 3574900

RECOMMENDATION

The committee are recommended to:

- (1) To refuse the request from Clipper Automotive to make an exception to the Council's Hackney Carriage and Private Hire Licensing Policy 2021-2026.

Summary

1. Clipper Automotive have approached the Council with a request (attached at **Appendix A**) that an exception is made to the current Hackney Carriage and Private Hire Licensing Policy 2021-2026, for their retrofitted all electric LTI TX4 vehicles to be licensed.
2. Clipper Automotive convert diesel powered LTI TX4 vehicles to become all electric vehicles. As shown at **Appendix A**, they state the converted vehicles have zero tailpipe emissions and reduce brake dust emissions via regenerative braking. The converted vehicles have Individual Vehicle Approval (IVA).
3. Clipper Automotive have also provided a report from the Vehicle Certificate Agency (VCA) to show that the vehicle meets the requirements of Economic Commission for Europe of the United Nations Regulation 100.01 (Uniform provisions concerning the approval of vehicles with regard to specific requirements for the electric power train). A copy of the report is attached at **Appendix B**.

4. An exemption is requested in relation to two aspects of the Council's policy, namely:

"Age Limit Policy

2. Vehicles presented for licensing on the first occasion shall be EURO 6 or higher standard and less than three and a half years old from the date of registration or, in respect of vehicles that have been imported other than as new into the United Kingdom, less than three and a half years old from the date of manufacture (In the remainder of this policy reference to date of first registration with regard to vehicles which are imported should be construed as date of manufacture)."

And:

"Wheelchair Accessibility

7. On the grant of any new vehicle licence the vehicle shall be capable of conveying a passenger using a wheelchair and benefit from ECWVTA (European Community Whole Vehicle Type Approval) (i.e. constructed as a purpose built taxi). The applicant must produce the appropriate documentation to evidence ECWVTA at time of application."

5. Clipper Automotive have provided the details of two of their currently converted vehicles as representative examples. These vehicles were registered in September 2012 and April 2007, considerably over the initial three and a half years old age limit. It would also seem that an exemption from the following policy provisions may be required:

"4. Any vehicle first registered on or before 31st August 2015 can be relicensed until 10 years from date of first registration.

5. Any vehicle first registered on or after 1st September 2015 can be licensed until 12 years from the date of first registration."

Context

6. Vehicle approval is required for all vehicles driven on public roads. This applies when the vehicle is first built and where it is rebuilt or radically altered. As members are aware the Council has required all new Hackney Carriages to benefit from European Community Whole Vehicle Type Approval (ECWVTA) since 1 May 2008 (with an exception for those with grandfather rights during a transitional period which has now ended).

7. ECWVTA is the highest standard of approval available. For second (or multi) stage conversions it involves the testing of anything that affects the base vehicle's original type approval. Testing includes physical crash simulation on the vehicle shell. Gaining ECWVTA is expensive and time consuming and elements are reassessed for compliance on an ongoing basis to ensure the converters processes adhere to the required standards. Once ECWVTA is achieved the converter can produce an unlimited number of vehicles of that type. A Certificate of Conformity (CoC) is then issued to state that the conversion has been carried out in line with the approved conversion process.
8. IVA is an alternative approval process. Unlike with ECWVTA each vehicle must be individually inspected after conversion. The inspection is visual only, and no physical or crash testing takes place.
9. If members were minded to approve an exception for vehicles that benefit from IVA, officers would recommend that a full public consultation is carried out to seek views from relevant stake holders before a final decision is taken. The move to only permit the licensing of vehicles benefiting from ECWVTA was undertaken to ensure the safety of the travelling public. Members wanted to ensure that passengers in licensed vehicles were safe, and that a converted vehicle would perform as expected should a collision or accident occur. Any alteration to the policy in this regard should be fully consulted upon to ensure all relevant considerations are taken into account.
10. Members will be aware that on 28 November 2022 a clean air zone was introduced in the central area of the city. This was introduced to ensure Bristol meets the legal limits on pollution as soon as possible. As members will be aware in 2021, 28 locations in Bristol exceeded the legal limit for nitrogen dioxide.
11. Air quality was a main consideration of this committee when determining its current and previous policies. Electric vehicles will be important in improving the air quality in Bristol, however officers consider that the requirement of vehicles to benefit from ECWVTA is an essential element of the Council's current policy which should not be departed from. ECWVTA ensures that licensed vehicles are tested to the highest safety standards, thus ensuring the safety of the travelling public in the event of an accident.
12. As detailed at paragraph 4 above, the existing initial age limit when a vehicle is first licensed is under three and a half years. The maximum age limit is 12 years, for vehicles first registered after 1 September 2015. The electric LEVC (London Electric Vehicle Company) may be licensed until 15 years of age.

13. In March 2022 the DFT produced a draft update of their best practice guidance. The Council responded to a consultation on this document and the results have not yet been published. The guidance is non-statutory, and the Council is not required to have regard to it, however it has been a useful document to outline best practice in a number of areas. In respect of vehicles age limits and emissions the draft guidance states:

“8.28 The frequency of testing required (see ‘frequency of vehicle tests’ above) to ensure the ongoing safety of vehicles is a separate issue to the setting of maximum age limits at first licensing, or maximum age limits beyond which an authority will not licence a vehicle. The setting of an arbitrary age limit may be inappropriate and counterproductive and result in higher costs to the trade and ultimately passengers. For example, a maximum age for first licensing may have adverse unintended consequences; a five-year-old used electric vehicle will produce less emissions than a new Euro 6 diesel or petrol fuel car – enabling the trade to make use of previously owned vehicles will assist it to transition more rapidly to zero emission vehicles and improve air quality

8.29 Licensing authorities should not impose age limits for the licensing of vehicles but should consider more targeted requirements to meet its policy objectives on emissions, safety rating and increasing wheelchair accessible provision where this is low.”

14. It is important that the Council ensure the vehicles it licenses are safe. In the majority of cases vehicles safety features improve over time as new technology is developed. The age limits are, in part, designed to ensure the vehicles licensed are fitted with the latest safety features. It is recognised that technology can develop at a fast pace and to allow vehicles to remain licensed for extended periods of time may have a negative impact on the safety of the travelling public. However, the Council does not however fetter its discretion by operating an inflexible policy, and would consider deviating where necessary if the circumstances warranted it.
15. With regard to emissions, the Council recognises the importance of this consideration in setting age limits. Members will be considering an alteration to the existing policy via a different report to be presented on 20 December 2022. However, as set out above officers consider that licensed vehicles should be tested to the highest safety standards, thus ensuring the safety of the travelling public, and as such an exception to the requirement of ECWVTA should not be made.

Recommendations

1. Officers recommend that members refuse the request from Clipper Automotive to make an exception to the Council's Hackney Carriage and Private Hire Licensing Policy 2021-2026.

Appendices – As links or attachments

Appendix A	Request from Clipper Automotive
Appendix B	VCA Inspection/Test Report

Dear PSP Committee,

Here at Clipper Automotive, we make all-electric taxis by retrofitting diesel cabs (specifically the LTI TX4) with an all-electric drivetrain. With zero tailpipe emissions, and recycling of the cabs, we estimate that each cab can save over 10 tonnes of CO₂e a year from the get-go. Also with our on-board regenerative braking there is reduced brake-dust and so town and city centre PM_{2.5} levels are vastly reduced.

We are seeking a legislation change, or an exemption/extension to the age limits for first time licences for fully electric Hackney carriages. Therefore this application is not just for the taxi LS62 BHN that is presented to you now, but for all converted Hackney Carriages that we provide going forward.

I have gone through the Hackney Carriage Vehicle Policy in the appendix below and highlighted whether our vehicle passes it or not. This combined with the our vehicle inspection certificate from Bristol Fleet Services shows that the cabs are not eligible for two reasons.

One is the colour of the cab we have converted - we can easily rectify this and convert (or paint) taxis to Bristol blue so we see no issue here for future cabs. The second is that the taxi fails on age limits.

"Vehicles presented shall be less than three and a half years old from the date of registration or, in respect of vehicles that have been imported other than as new into the United Kingdom, less than three and a half years old from the date of manufacture"

Age limits are usually in place due to emissions, trying to get older, dirtier cabs off the road, hence why there have usually been extensions for gas cabs, or exhaust improvements. As our cabs are zero emission, the main reason for age limits doesn't apply. This has given us success in Oxford who have rid their age limits for our cabs, and are now collecting fares there, but also Birmingham are close to allowing us to licence there with an age limit extension, as well as Derby and Leicester.

As stated above, vehicles can only be first licensed when the vehicle is within 3.5 years of manufacture or registration.. When we convert our cabs, we lift the body and inspect and restore the chassis, and any coils or bushes that need changing are changed. We produce new drive shafts, use new HV cabling and connections and new battery boxes, one possible route is that we could fall into that 3.5 year timeline.

Some councils have age limits to also help keep the general condition of cabs up, for example Edinburgh. Edinburgh had similar licensing rules to Bristol with new vehicles, but has agreed that zero emission vehicles should be exempt from the first licence age rule, however our taxis will need to go through 6 month inspections to make sure they are kept in good condition for both interior and exterior. This is a route that could also work with the current Bristol licensing.

Clipper Automotive decided to get voluntary third party validation for our conversion process to provide councils a source of trust. We firstly send each taxi to the Vehicle Certificate Agency (VCA) for High Voltage safety, isolation resistance, and EV vehicle regulation tests. We have provided the certification with this application to show this has passed.

After this we also send the taxis to the DVSA for a voluntary IVA to ensure good engineering practices, we have also attached the passed certificate with this application. The DVSA will not progress on an IVA for an electric vehicle retrofit until provided with a pass from the VCA, so this DVSA certification can be provided for future conversions.

Clipper Automotive has designed these cabs to comply with European regulation 100.02, and have written a detailed engineering report that shows the specifications for all parts used in the conversion against this regulation. The report also provides the steps that are taken for the conversion, and the modelling and safety features that we implemented. We would be happy to provide this report if more detail is required.

Thanks in advance for your time and consideration for age extensions/exemptions. The Appendix is found below.

Kind regards,



Harris Medwell

Clipper Automotive
Electric Vehicle Engineer

APPENDIX

Page 7 - Hackney Carriage Vehicle Specification

Section 1: Vehicle is 100% electric and complies.

Section 2: Age limits - discussed above.

Sections 3,4,5,6: to be agreed with you as to age limits for our Electric Taxis. If LEVCs get 15 as a hybrid, should we be the same/more?

Section 7,8: Will be carried over as standard from TX4.

Section 9,10,11: This to be agreed around age limits, should our taxi's be inspected every 12months or 6 months, depending on the age of taxi, or when it was first registered.

Section 12-13: Will be carried over as standard from TX4.

Section 14: Our cabs are currently black, but would be able to paint to be approved. Could possibly have different livery to highlight these are fully electric?

Section 15, 16, 17, 18, 19, 20, 21, 22: Will be carried over as standard from TX4.

Page 24 - The Inspection of Hackney Carriage

Section 1.3: Will be carried over as standard from TX4.

Section 1.8: All new wiring passes the max 30cm fastening distance from the DVSA IVA. All HV cabling is VCA approved and insulated.

Section 1.9: Will be carried over as standard from TX4.

Section 2: Will be carried over as standard from TX4.

Section 3.1: Spare wheel is now attached where the fuel tank used to be, and tools are within the boot to drop the wheel and change.

Section 4: Will be carried over as standard from TX4.

Section 5: Fuel system removed.

Section 6: Will be carried over as standard from TX4.

Section 7.1: Speedo still runs from Taxi diff and is unchanged.

Section 7.2: New gear shaft within nissan gearbox, new coupling, new drive shaft that attaches to existing taxi driveshaft.

Section 7.3: New Motor Mounts, new motor mount rubbers, all attached to chassis. **No modifications to chassis.**

Section 7.4: Still water cooled system to check and gearbox oil to check.

Section 7.5/6/7/8: Will be carried over as standard from TX4.

Section 8: Will be carried over as standard from TX4.



Inspection/Test Report: Electric Power Trained Vehicles

Legislation

UNECE Regulation 100.01 to Supplement 4

Inspection/Test Details

Location of Inspection/Test:	VCA Headquarters, 1 The Eastgate Office Centre Eastgate Road, Bristol, BS5 6XX
Date of Inspection/Test:	17 th January 2022
VCA Representative(s):	David Mills & Nicholas Bridge
Inspectors office location:	VCA HQ
Manufacturer's Representative(s):	Alexander Howard
Reason for Test Report:	Test report only

Manufacturer Details

Name and Address:	Clipper Automotive @ Richmond Road Cab Centre. 195 Richmond Road, Hackney, London, E8 3NJ
Type:	TX4 Auto
Commercial Description:	Hackney Carriage
Category:	M1

Conclusion

The above mentioned vehicle was tested in accordance with the above mentioned legislation and was found to comply in all respects. This report relates only to the items tested.

Witness Engineer/Test Engineer
Signature:

Name: David Mills
Position: Type Approval Engineer
Date: 18th January 2022

List of Annexes

Annex	No of Pages	Subject
I		
II		



Issue Record

Issue 0 is original report
Issue 1, update Vehicle Type and Worst Case Rationale.

Worst Case Rationale

Full Test Report required for Clipper Cab TX Conversion. Test Report to be used as evidence for IVA inspection.

Clipper Automotive are a Stage 2 manufacturer fitting a drivetrain from a Nissan Leaf/NV200 into the TX4 Auto Taxi, the motor/ inverter stack includes the gearbox, junction box and inverter. Clipper Cabs manufacture the Vehicle Control Unit, with the remainder of components carrying over from Nissan and Tesla. These remain unchanged during the conversion utilising OEM looms and connectors. The on-board charger and DC/DC converter are from a Tesla and meet the applicable requirements below.

Note: This Test Report is only valid for the vehicle VIN which the inspection was conducted against.

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report

Significant Interpretations, Alternative Test Methods, New Technologies

Not Applicable

Inspection/Tests Required

	Yes, NA, See Report ... / Approval ... / Annex ...
Protection against Electrical Shock:	Yes
Rechargeable Energy Storage System (REESS):	Yes
Functional Safety:	Yes
Isolation Resistance Measurement	Yes
Determination of Hydrogen Emissions:	Not applicable

Vehicle Specification

Vehicle Identification Number:	SCRT4HAMKCC212560
Motor:	Nissan AC synchronous electric motor, engine code EM57
REESS:	Clipper Automotive battery box containing battery modules / cells from Envision / AESC.
Inverter/Controller:	Nissan PDM and Inverter
List of Other Components Connected to HV Bus:	See Information Document,
Working Voltage (DC Bus):	360 V
Working Voltage (AC Bus):	V





Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the vehicle tested and covers all variants and versions agreed in the worst case rationale. Information document uploaded to job folder and identified by job number.

Yes

Facility and Equipment Checks

Calibration certificates checked and valid, recorded in the following table:

Yes

Equipment	Serial / Certificate No.	Calibration due*
Multi-Meter	34340717WS	Sep 2021
Multi-Meter	25450302	Sep 2021

*Specify calibrated date + (interval) or calibration due date.

Inspection/Test Requirements

Complies
Yes / NA

Protection against Electric Shock

Protection against Direct Contact

5.1.1. Protections against direct contact with live parts (solid insulator, barrier, enclosure, etc.) are not able to be opened, disassembled or removed without the use of tools.

Yes

5.1.1.1 Live parts inside the passenger compartment or luggage compartment are protected to IPXXD (wire probe).

Yes

Item	Force Applied (N)	Comment
REESS	-	IPXXD protected from luggage compartment access. IPXXB protected from other directions.

Note: Applied force only needs to be measured if deemed necessary.

Limit: 0.9 - 1.1 N

5.1.1.2 Live parts in areas other than the passenger compartment or luggage compartment are protected to IPXXB (jointed finger probe).

Yes

Item	Force Applied (N)	Comment
Junction Box	-	IPXXB Protected
REESS	-	IPXXB Protected

Note: Applied force only needs to be measured if deemed necessary.

Limit: 9 - 11 N

5.1.1 Connectors (including vehicle inlet) comply with at least one of the following options:





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- a Connectors comply with IPXXB or IPXXD, as appropriate to their location, when separated without the use of tools;
- b Connectors are located underneath the floor and are provided with a locking mechanism;
- c Connectors are provided with a locking mechanism and other components, not being part of the connector, can only be removed with the use of tools in order to separate the connector;
- d Voltage of the live parts becomes equal or below DC 60 V or equal or below AC 30 V (RMS) within one second after the connector is separated.

Connector on	Wiring Harness connects to	Complies with a, b, c or d*
REESS	PDM	a & c
PDM	REESS	a & c
PDM Components (See Worst Case Notes)	-	a & c

Where option 'a' is used, the applied force should be noted in column 3 if it has been deemed necessary to measure.

Limits: IPXXD – 0.9 - 1.1 N; IPXXB – 9 - 11 N

5.1.1.3

Service disconnect, if fitted, complies with one of the following options:

Yes

- Has protection degree IPXXB when separated*

~~- Cannot be opened, disassembled or removed without tools*~~

*Strikethrough, as appropriate.

Ann 3, Table 1

Force applied to test probe, if applicable:

-

N

NA

Limit: 9 - 11 N

5.1.1.4.1.

Figure 1 symbol appears on or near the REESS.

Yes

Figure 1



5.1.1.4.2.

Figure 1 symbol is also visible on enclosures and barriers, which, when removed, expose live parts of high voltage circuits, except:

Yes

- Where barriers or enclosures cannot be accessed, opened or removed, unless other vehicle components are removed with the use of tools;
- Where barriers or enclosures are located underneath the vehicle floor.

Note: This provision is optional to any connector for high voltage buses.

Locations on vehicle where symbol is displayed:

On battery & PDM stack



On boot battery set x2

5.1.1.4.3. Cables for high voltage buses that are not located within enclosures are identified by having an outer covering with the colour orange. Yes

Protection against Indirect Contact

5.1.2.1. Exposed conductive parts, such as a conductive barrier or enclosure, are galvanically connected to the electrical chassis using electrical wire or ground cable, by welding, or by connection using bolts, etc. so that no dangerous potentials are produced. Yes

5.1.2.2. Resistance between all exposed conductive parts and the electrical chassis is lower than 0.1 ohms when there is current flow of at least 0.2 A. This requirement is satisfied if the galvanic connection has been established by welding. Yes

Component	Grounding Method	Resistance (Ω)
Front REES	Earth strap	0.1
Motor inverter	Earth strap	<0.1
Rear REES	Earth strap	0.1

5.1.2.3. Where the vehicle is intended to be connected to the grounded external electric power supply through a conductive connection, a device to enable the galvanical connection of the electrical chassis to the earth ground is provided. Yes

5.1.2.3. Device enables connection to the earth ground before exterior voltage is applied to the vehicle and retains the connection until after the exterior voltage is removed from the vehicle. Yes

Isolation Resistance – Separate AC and DC Buses

5.1.3.1. Isolation resistance between the high voltage bus and the electrical chassis has a minimum value of 100 ohms/volt of the working voltage for DC buses and a minimum value of 500 ohms/volt of the working voltage for AC buses. NA

AC bus isolation resistance: - Ω/v
DC bus isolation resistance: - Ω/v

Note: The isolation resistance between the high voltage bus and the electrical chassis may be demonstrated by calculation, measurement or a combination of both. The measurement is conducted according to Annex 4 'Isolation Resistance Measurement Method' or a method equivalent to it.

Isolation Resistance – Combined AC and DC Buses

5.1.3.2. If AC/DC high voltage buses are galvanically connected, isolation resistance between the high voltage bus and the electrical chassis has a minimum value of 500 ohms/volt of the working voltage. NA



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5.1.3.2. If all AC high voltage buses are protected by one of the two following measures, isolation resistance between the high voltage bus and the electrical chassis has a minimum value of 100 ohms/volt of the working voltage: Yes

- Double or more layers of solid insulators, barriers or enclosures that meet the requirement in paragraph 5.1.1 independently; for example, the wiring harness*
- Mechanically robust protections that have sufficient durability over vehicle service life, such as motor housings, electronic converter cases or connectors*

*Strikethrough, as appropriate.

Combined AC/DC bus isolation resistance: 24883 Ω/v

Note: The isolation resistance between the high voltage bus and the electrical chassis may be demonstrated by calculation, measurement or a combination of both. The measurement is conducted according to Annex 4 'Isolation Resistance Measurement Method' or a method equivalent to it.

Fuel Cell Vehicles

5.1.3.3. If the minimum isolation resistance requirement cannot be maintained over time, then protection is achieved by any of the following: NA

- ~~- Double or more layers of solid insulators, barriers or enclosures that meet the requirement in paragraph 5.1.1 independently*~~
- ~~- On-board isolation resistance monitoring system together with a warning to the driver if the isolation resistance drops below the minimum required value*~~

*Strikethrough, as appropriate.

Note: The isolation resistance between the high voltage bus of the coupling system for charging the REESS, which is not energised besides during charging the REESS, and the electrical chassis, need not be monitored.

Ann 5 The function of the on-board isolation resistance monitoring system is confirmed by inserting a resistor that does not cause the isolation resistance between the terminal being monitored and the electrical chassis to drop below the minimum required isolation resistance value. The warning is activated. NA

Resistance used: - Ω

Isolation Resistance Requirement for the Coupling System for Charging the REESS

5.1.3.4. Isolation resistance between the high voltage bus and the electrical chassis is at least 1 MΩ when the charger coupler is disconnected: - MΩ NA

Note: During the measurement, the traction battery may be disconnected.

Rechargeable Energy Storage System (REESS)

Protection against Excessive Current Page 34



5.2.1.	If the REESS is subject to overheating due to excessive current, it is equipped with a protective device, such as fuses, circuit breakers or main contactors.	Yes
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Accumulation of Gas

5.2.2.	Places for containing open type traction battery that may produce hydrogen are provided with a ventilation fan or a ventilation duct to prevent the accumulation of gas.	NA
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Functional Safety

5.3.	Momentary indication is given to the driver when the vehicle is in 'active driving possible mode'. <i>Note: This provision does not apply under conditions where an internal combustion engine provides directly or indirectly the vehicle's propulsion power (providing the engine is running at all times).</i>	Yes
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5.3.	When leaving the vehicle, the driver is informed by a signal (additional to the above indication) if the vehicle is still in the active driving possible mode.	Yes
------	----------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

5.3.	If the on-board REESS can be externally charged by the user, vehicle movement by its own propulsion system is impossible as long as the connector of the external electric power supply is physically connected to the vehicle inlet. <i>Note: This requirement is demonstrated by using the connector specified by the car manufacturer.</i>	Yes
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5.3.	State of the drive direction control unit is identified to the driver.	Yes
------	------------------------------------------------------------------------	-----

Isolation Resistance Measurement

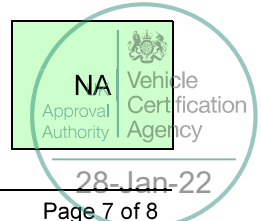
Measurement Method using DC Voltage from Off-vehicle Sources (For individual components, use this method for items not powered up during section 2.2 test.)

Ann 4, 2.1.1.	Isolation resistance test instrument is capable of applying a DC voltage higher than the working voltage of the high voltage bus.	NA
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Ann 4, 2.1.2.	Insulator resistance test instrument connected between the live parts and the electrical chassis.	NA
---------------	---------------------------------------------------------------------------------------------------	----

Ann 4, 2.1.2.	Isolation resistance measured by applying a DC voltage at least half of the working voltage of the high voltage bus.	NA
---------------	----------------------------------------------------------------------------------------------------------------------	----

Ann 4, 2.1.2.	If the system has several voltage ranges, the isolation resistance between those components and the electrical chassis is measured separately by applying at least half of their own working voltage with those components disconnected.	NA
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----





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Component	Test Result (Ω)
-	-

Measurement Method using the Vehicle's Own REESS as DC Voltage Source

(Covers main HV bus and any HV components live during test.)

Ann 4, 2.2.1.	Test conducted using at least the nominal operating voltage, as specified by the vehicle manufacturer.	Yes
Ann 4, 2.2.2.	Voltmeter used measures DC values and has an internal resistance of at least 10 MΩ.	Yes
Ann 4, 2.2.3.1.	V _b :	391.9 V
Ann 4, 2.2.3.2.	V ₁ :	195.8 V
Ann 4, 2.2.3.3.	V ₂ :	196.1 V
	R ₀ :	200 Ω
	If V ₁ is greater than or equal to V ₂ :	
Ann 4, 2.2.3.4.	V ₁ ':	- V
	R _i = R ₀ *(V _b /V ₁ ' - V _b /V ₁):	- Ω
	If V ₁ is less than V ₂ :	
Ann 4, 2.2.3.4.	V ₂ ':	7.6 V
	R _i = R ₀ *(V _b /V ₂ ' - V _b /V ₂):	9913 Ω

Calculation of Overall Isolation Resistance

Overall isolation resistance for the vehicle is calculated by combining the various component resistances as 'resistors in parallel'. This is not required where the entire HV system has been covered by the test in 2.2.

$$R_{total} = \frac{1}{\left[\frac{1}{R_1} + \frac{1}{R_2} + \dots \right]}$$

R_{total}: - Ω

The final result is obtained by dividing the overall resistance by the working bus voltage of the vehicle:

R_{total}/working bus voltage: 24883 Ω/V

Determination of Hydrogen Emissions – Not applicable

(This test is carried out on all vehicles equipped with open type traction batteries)

Remarks

None.

Note: VCA apply measurement uncertainty to calibrated items but not test results.