

MINO-444 – Low Volume Vehicle Certification Process for EVs

15 August 2022

An update on low volume vehicle (LVV) certification processes, specifically for an Electric Vehicle (EV) conversion.

Waka Kotahi NZ Transport Agency's response:

- In order to ensure that modifications made to a vehicle do not put the occupants or others at an increased risk, any vehicle which has been modified beyond the certification threshold must obtain an LVV certification before it can be issued with a Warrant of Fitness (WoF). Our response to each of the concerns raised is outlined below.

History of the Low Volume Vehicle Testing Association (LVVTA)

- The LVVTA has evolved from an enthusiast-based organisation 30 years ago into a professional, responsive organisation, operating what is generally considered a world-best system. LVVTA is responsible for the vehicle modification and construction industry as well as the enthusiast sector.
- The LVV certification system has been progressively improved and refined, and now encompasses low volume vehicle standards (setting technical requirements), form-sets, information sheets, safety alerts, and other supporting documentation. The LVVTA documentation system fills a 9-volume set of LVV certification manuals, applied by the LVV Certifiers during the LVV certification process, and available to the public, free of charge, via LVVTA's website.

Timeframes for LVV certification

- When a vehicle is being modified the certification process inspection time can vary greatly. The timeframe depends on a number of factors, including:
 - the number of certification inspections required; several inspections can be necessary as modifications progress, or a vehicle can be presented in finished form; and
 - how the vehicle is presented; in particular whether it requires rectifications to be made in order to bring the vehicle into a safe and compliant condition; and
 - the time taken by the modifier to carry out the rectifications (some modifiers can take several months to carry out the required rectification work); and
 - how well the modifier follows the LVV Certifier's rectification instructions (some modifiers re-present the vehicle with rectifications not carried out, or not carried out correctly); and
 - availability of the LVV Certifier for re-inspections.
- Where an LVV Certifier is involved with the vehicle from the start of the modification process, and the modifier has correctly followed the relevant technical requirements, it would be reasonable to expect the LVV certification process completed in a few weeks.
- LVVTA is responsible (under its Contract for Service with Waka Kotahi) to maintain a good geographical coverage of LVV Certifiers throughout New Zealand. The current situation relating to electric vehicles is that:

- there are currently seven LVV Certifiers who hold the Electric Vehicle category. There are three in the South Island and four in the North Island,
 - three existing LVV Certifiers have been switched onto the Electric Vehicle category in the last 12 months,
 - there is currently an application with Waka Kotahi for a new LVV Certifier in the Wellington region, and one of the categories the applicant has applied for is LV4 (Electric Vehicle) category.
- It should be noted that a balance needs to be maintained between the number of LVV Certifiers appointed and available for Electric Vehicles, and the demand for LVV certification of Electric Vehicles. Currently, there is actually a considerable over-supply of LVV Certifiers, because only two Electric Vehicle conversions have undergone LVV certification in the past 18 months.

LVVTA funding

- Waka Kotahi has had a Contract for Service with LVVTA, since 2020, to provide various services to the LVV certification system on their behalf.
- Waka Kotahi pays an annual contribution to LVVTA, toward the 'public good' elements of this service. The remaining cost (to provide these services) is paid for by the 'user-pays' LVVTA certification fee which LVV Certifiers collect on behalf of LVVTA for each LVV certification they carry out.
- The contribution paid by Waka Kotahi towards LVVTA's certification operations is \$707,433.00 annually.

Regulation of LVV Certifiers

- There is considerable oversight of LVV Certifiers, more-so than in any other motor vehicle certification activity. The primary elements of performance oversight are:
 - LVVTA carries out targeted and random desk-top audits of the LVV certification files of every LVV Certifier. All errors identified are discussed with the LVV Certifiers via coaching (and rectifications are made to the vehicles where necessary). The results of these desk-top audits are reported to Waka Kotahi monthly, via LVVTA's Certifier Performance Report.
 - Waka Kotahi carries out Performance Reviews (PRS) on all LVV Certifiers every two years. The time between reviews is reduced if an LVV Certifier is not meeting Waka Kotahi expectations.

Appointment and qualifications of LVV Certifiers

- Almost without exception, LVV Certifiers are qualified Automotive Engineers (Motor Mechanics).
- There are a very small number of LVV Certifiers who don't hold a formal qualification however they have vast practical experience which comes from working in the area of modifying, designing, and building modified and scratch-built vehicles over an extensive period of time (a minimum of 20 years, and often 30-plus years).
- Because of the high level of complexity in LVV, there are 15 different LVV certification categories, and the experience requirements differ for each category of LVV certification. However, the minimum entry-level qualifications and experience criteria required to become appointed as an LVV Certifier are that the applicant must:

- hold a New Zealand National Certificate in Automotive Engineering, or equivalent, and have had two years' recent full-time practical experience in the modification of motor vehicles, involving elements of design change that affect safety systems; or
- have had four years' recent full-time practical experience in the modification of light motor vehicles, involving elements of design that affect safety systems.

History between LVVTA and EV Classic

- EV Classic was responsible for one of the two EV conversions carried out in New Zealand thus far.

- s 9(2)(b)(ii)

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- The LVVTA is of the view that the LVV Certifiers involved with the LVV certification of the EV Classic vehicle have acted properly and correctly throughout the process.

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