



COMMON GROUND

Some five years ago, England launched a new scheme of 'trailblazer' apprenticeships for a variety of vocational qualifications, including technicians in heavy goods and passenger-carrying vehicles. That led to the development of a number of new standards by industry groups.

However, the devolved nations of Scotland, Wales and Northern Ireland all chose to carry on with the existing framework apprenticeship system. Over the past six months, in response to a call from Skills Development Scotland, a number of automotive national occupational standards (NOS) have been formally reviewed by industry experts recruited by project manager IMI. These include standards for technician roles in heavy vehicle, first, and latterly bus and coach. The results of the bus and coach standards review went out for consultation last month.

What has come out of the reviews is a major simplification of technical standards: five occupational routes going into the review have been slimmed down to two. In summary, the panel proposed discontinuing the separate mechanical and electrical bus and coach technician categories, combining the bus and coach mechelec with the heavy vehicle technician route

A review of technical standards in the devolved nations has proposed doing away with separate 'mechanical' and 'electrical' routes in bus and coach, and has entirely revised content of the coachmaker route

(which is already a mechelec role), and incorporating much of another standard not being reviewed, Body Building (for CV fabricators), into the bus and coach coachbuilder route.

The process not only involved participation from representatives of all of the devolved nations, but also England. Moreover, it is likely to have an impact on the review of bus and coach and heavy vehicle trailblazers in England, which began in 2020 but was stalled by COVID-19.

"At the end of the day, no-one wants apprentices in England developing different competences from one in Scotland," observes Lloyd Mason, former Arriva engineering development manager, who acted as technical lead in the bus and coach standard review.

ORDERS

He explains that Skills Development Scotland instructed the review panel to not only include new technological developments, but also to remove duplication, if possible, when updating the standards, which were last reviewed in 2014 for bus and coach. The

apprenticeship frameworks consist of many national occupation standards, which Mason compares to a menu; training providers are able to pick and choose individual elements to develop courses.

Directions from the Scottish skills body weren't the only force to amalgamate the standards, Mason adds. He says: "With the way that technology has moved, the differences in between the roles were becoming blurred. There is more integration of electronics in what were purely mechanical systems. The need to have separate mechanical and electrical job roles is still there today, as operators still have older vehicles with a mainly mechanical transmission and engine, but of course as they start to fall out of the systems, the newer vehicles are integrated. What we're seeing is that the mechelec role in bus and coach apprenticeships is a growing one, and numbers for purely mechanical and electrical roles are falling off. Employers are going for that combined role, which is more or less what heavy vehicles have always had."

Also, Mason pointed out that they

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noticed few differences between the chassis and drivelines of buses, coaches and heavy vehicles; in fact, some of the major OEMs such as Volvo, MAN and Scania produce all three types.

The IMI project manager in charge of the project, Caroline Harris, recalls that she provided the expert working group with copies of the heavy vehicle technician standard, whose review had just been completed, initially for comparison purposes. She says: “It quickly became apparent that there was far more detail in the heavy vehicle NOS than the bus and coach NOS, and people in the expert working group said, ‘Why don’t we use this?’”

So they did. This was also partly motivated by a desire to facilitate apprentices’ interchange between the two industries, she adds.

One technical implication of sharing the standards, she pointed out, was that certain engine or transmission components on a truck might not be relevant to bus and coach. This obstacle was overcome by replacing the reference to a part with a reference to its operating mechanism, for example as a hydraulic or pneumatic part. “As a standard, you don’t need to be too specific,” Harris notes. “The specific detail can be added during development of the qualification.”

COACHBUILDING

A different set of experts were involved in the coachbuilding review, Mason says, and their general view was that they were not fit for purpose because of the lack of fabrication detail. They complained that MIG, TIG and MAG welding were not included, while the small amount of ‘thermal joining’ detail in there, such as oxyacetylene welding, is being phased out. They also argued that the frameworks should include more on painting: while brush and roller painting was included, there was nothing about spray-painting and spray booths, both of



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which are popular now.

As all of these topics were covered in existing CV Body Building NOS, some units were copied wholesale and inserted in the new bus and coach Coachbuilder NOS. These changes were also motivated by a desire to help training providers; coachbuilding has always been less popular than the mechanical roles. Low numbers make it difficult for training providers to financially justify offering the training. However, the more closely it resembles the CV Body Building standard, the more easily existing providers can offer both. (Because the CV Body Building standard wasn’t up for review, it was not possible to change anything, so the two could not be combined, Mason clarifies.)

OTHER CHANGES

The big change to standards in new technology was two new units on hydrogen vehicles: removing and replacing components in a hydrogen fuel cell system, and diagnosing and rectifying faults in hydrogen systems. Those were added to five other existing electric vehicle units: safe working practices on, near or with them; removing and replacing components;

diagnosing and rectifying faults; isolating and reenergising; and making them safe (which is for first responders, such as roadside recovery). Also written was a new unit on how to store high-voltage batteries (‘you can’t leave them sitting on the floor,’ observes Harris).

Two other units previously developed by IMI in another review related to advanced driver assistance systems (ADAS). One unit covers safe working practices; another covers their removal, replacement, fault diagnosis and rectification.

After the IMI team reviews any feedback from the consultation, it will send the NOS documents to Skills Development Scotland for final approval. Then they will be published for all to use, including awarding organisations, training providers and employers. “They are public property at that point,” observes Harris. In other words, employers could use them to create a learning package that will be guaranteed to align with the expectations of awarding organisations. Another benefit for employers is using NOS for the general terms needed to write job specifications when advertising vacancies. [TE](#)