
NETWORK and VEHICLE CHANGE COMMITTEE

Determination NV35

Hearing held at Kings Cross on 13th December 2001

[Note previous published determination was determination nv33]

1. The Committee was asked by ScotRail Railways Limited (SR) to rule that Railtrack, in relation to the introduction of the Class 170/4 trains on the Edinburgh-Glasgow, and Edinburgh-Aberdeen-Inverness routes, had carried out clearance works that were unnecessary, and that therefore, Railtrack were not entitled to expect SR to pay for those works. The Committee was also asked to rule that Railtrack, in relation to the introduction of the Class 334 trains for use on the electrified routes, had carried out clearance works that were unnecessary.
2. The Committee noted that the matter related to the application of Track Access Condition F, and that the reference to the Committee was made in accordance with Condition F5.
3. The Committee considered that the following were the key features of the case in relation to the Class 170:
 - 3.1. SR had ordered new trains with, as part of the purchasing specification, the requirement that the new trains (Class 170/4) would be able to pass over all lines over which SR currently operates Class 158 trains;
 - 3.2. the parties were agreed that they had applied the provisions of Track Access Condition F, insofar as these related to initial evaluation by Railtrack (Condition F1.1 to 1.6);
 - 3.3. Railtrack and SR had worked in close collaboration to ensure that there were no infrastructure impediments to the introduction of the Class 170/4s, even to the extent that there had been agreement that clearance works be undertaken, without having formally complied with Conditions F1.7 & 8 and F3.2 & 3;
 - 3.4. a request from SR in August 1999 for details of the justification for the works undertaken, had lain formally unanswered until, in 2001, Railtrack had submitted an unsubstantiated invoice for over £215,000, being 75% of the costs of evaluation works, and 100% of the costs of the physical works at 12 locations;
 - 3.5. SR confirmed that the manufacturers of the Class 170/4 trains asserted that they had met the specification for a train that would pass over routes used by Class 158 trains, although they did concede that, in particular in the area of the cab valance/footstep, the kinematic envelope of the Class 170/4 exceeded that of Class 158;

- 3.6. the most obvious difference between the Class 170/4 and the Class 158 was that, on the Class 170/4, the passenger doors were at the 1/3 2/3 locations rather than in the end vestibules (as on Class 158); there was no clear understanding as to whether this aspect of the design had required accommodating works over and beyond any works being undertaken in relation to more general questions of stepping distances;
 - 3.7. there was concern, expressed by both SR and its manufacturer, that Railtrack had only arrived at the conclusion that any infrastructure works were needed, because it had made alternating use of two different computer models of vehicle gauging, in ways that lacked consistency and rigour.
4. The Committee noted that the options open to Railtrack, to enable them to identify potential fouls between new, as yet un-built, rolling stock and existing infrastructure, was to conduct desk-top exercises using computer models. The parties were at pains to differentiate between two separate techniques, namely
 - 4.1. “absolute gauging” where the computer model of the dynamic performance of the new train is superimposed on the computer model of the infrastructure; and
 - 4.2. “comparative gauging” where the computer model of the new train is compared to that of an existing train which already operates over the routes in question.
 5. It was noted that the former of these techniques depended on the existence of a comprehensive model of the infrastructure, combined with an accurate model of the likely performance of the train; accurate comparative gauging was dependent upon the use of two train models that were compiled on an equivalent basis.
 6. Concern was expressed, on behalf of SR, that Railtrack, in the way it had made use of the two techniques, had potentially misdirected itself as to the scope of works necessary to accommodate Class 170/4 trains. In particular,
 - 6.1. Railtrack had first envisaged using comparative gauging, had then switched to absolute gauging, and then reverted to comparative gauging;
 - 6.2. Railtrack appeared to have a model of the infrastructure, appropriate to the needs of absolute gauging, and an appropriate model of the Class 170/4 train had also been evolved;
 - 6.3. the available model of the Class 158 was compiled on a basis sufficiently different to the Class 170/4 model that it was likely to generate spurious differences (and indeed spurious congruencies).
 7. The Committee satisfied itself that the manner in which these techniques had been deployed by Railtrack took account of these potential pitfalls, inasmuch as
 - 7.1. Railtrack had aspired where possible to carry out absolute gauging;

- 7.2. the time pressures associated with the Scotrail 2000 project had led it, in some cases, to use comparative gauging as a way of identifying sites where there was a probability that specific clearance works might be needed;
 - 7.3. the actual definition of works needed had depended upon absolute gauging techniques, backed up by empirical measurement;
 - 7.4. by these means Railtrack had sought to keep both the amount and cost of works to a minimum; nevertheless there was a risk, which Railtrack acknowledged fell to their account, that this procedure might result in locations that definitely required works not being identified.
8. The Committee noted the complementary concerns of SR that there was the possibility that Railtrack was seeking to charge SR, in the name of clearance for Class 170/4, for works otherwise part of the Station Regeneration Programme, or the HMRI stepping distance initiative. The Committee noted that the way for Railtrack to demonstrate that such suspicions were unfounded would have been for it to reply, at the earliest opportunity, and in detail, to SR's letter of 19th August 1999.
 9. In respect of the Class 334 train, the value of the works at issue amounted to £11,300 at two locations, to which was added 75% of the assessment charges. Concerns had been expressed because the 334 vehicle had also been designed to fit within the envelope of a comparator vehicle (the "Class 319 family", of which SR use both the Class 318 and 322). The Committee was satisfied that there were no issues of principle raised in relation to Class 334 that were not already in its mind in relation to Class 170/4.
 10. The Committee therefore determined that:
 - 10.1. there were inconsistencies as between the absolute gauging and comparative gauging techniques employed by Railtrack Scotland;
 - 10.2. the fact of such inconsistencies may have contributed to the costs associated with the vehicle assessment being higher than if there had been a single proven technique consistently applied; some acknowledgement of this factor should be agreed in relation to the assessment of reasonable costs in accordance with Conditions F1.6 and F1.7;
 - 10.3. the techniques used had been deployed by Railtrack in a way that appeared responsibly to take account of their respective limitations, namely that:
 - 10.3.1. comparative gauging had been used to speed up the identification of the locations at which there was a probability that clearance works would be needed;
 - 10.3.2. absolute gauging against a Class 170/4 specification (backed up by empirical measurements) had been used to determine what precise works were needed to accommodate Class 170/4;
 - 10.3.3. the risk that locations that might be in need of works would be missed was acknowledged and accepted by Railtrack;

- 10.4. Railtrack appeared to have made real efforts both to expedite works, and to carry out only those minimum works necessary to permit the timely introduction of Class 170/4;
- 10.5. there was a lack of shared clarity in the minds of the parties as to the interrelation between the works necessary for the introduction of Class 170/4, and other works required to achieve compliance with Group Standards, or to deliver the Station Regeneration Programme; however, there was no apparent reason why such clarity could not be achieved, and shared;
- 10.6. the minor, but still real, differences between Class 170/4 and Class 158, for example in relation Cab valences/footsteps, could potentially require that works be undertaken for Class 170/4 at locations previously cleared for Class 158;
- 10.7. Railtrack should reasonably be expected to supply, on a site by site basis, details of the works undertaken; these details should be sufficient to inform SR, in relation to the concerns expressed in its letter of 19th August 1999, that
 - 10.7.1. all works that have been undertaken do support clear and definitive physical gauge differences between a Class 170/4 and a Class 158 unit,
 - 10.7.2. all works are supported by empirical information for each site, which supports the requirement for this work, such that SR can use this information in its commercial back-to-back arrangements, and
 - 10.7.3. it should be clear where any gauge clearance works have been undertaken to improve clearance to Group or Industry standards not otherwise associated with the variance between a Class 170/4 and a Class 158 unit;
- 10.8. SR shall, on the basis of the information, submitted make a prompt settlement of the monies properly due;
- 10.9. similar principles should apply in relation to outstanding costs for works in relation to introduction of Class 334.
11. Where, having complied with the directions set out above, the parties still cannot agree the detail of the monies due, that difference may be referred to this Committee.

Bryan Driver
Chairman