



Acceptance Testing The ALP46A

Case Study



Built in their Kassel plant in Germany Bombardier is set to supply New Jersey Transit (NJT) with 36 ALP46A electric locomotives. As part of its introduction into service the locomotive is required to undergo vehicle qualification testing to evaluate its dynamic performance.

According to the Federal Railroad Authority's (FRA) Track Safety Standards (49 CFR Part 213) the vehicle needs to be tested using instrumented wheelsets (IWs) to enable accurate measurement of the forces between the wheel and the rail.

Interfleet is a world leader in instrumented wheelset technology (IWT4), has over 50 years experience of railway vehicle testing, and now has established a strong presence in the North American market. Hence Interfleet was a natural choice for both supplying the required instrumented wheelsets and conducting the tests.

Interfleet's cutting edge IWT4 technology was chosen for building the IWs. In contrast to conventional techniques, by using IWT4 the ALP46A's existing wheelsets could be used. There was no need for the manufacture of special wheels with a specific plate shape, or any destructive machining of the axle or wheel plate. This reduces the risk to the project, risk in terms of both safety and holding the timeline.

IWT4 only requires instrumentation to be fitted to one face of the wheel plate. As the ALP46A employs a quill drive, there is very little space on the gauge face of the wheel plate, hence the field side was instrumented and the IWT4 telemetry units mounted to the wheel hub rather than the axle.

With the calibrated IWT4 wheels delivered to Bombardier on 17th May, the focus has now shifted to test preparations. In the fall of 2010 engineers from both Interfleet's Swedish and North American offices will work together with NJT to undertake the Vehicle Qualification Testing on the North East corridor with Bombardier, NJT, Amtrak and the FRA. The ALP46A project illustrates Interfleet's world class competence and experience, furthermore it demonstrates Interfleet's ability to deliver successful projects worldwide.



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