



Queensland Rail purchases cutting edge railway traction power supply simulation capability.

Queensland Rail has purchased the OpenPowerNet power supply performance software tool developed by the Institute for Railway Technology Dresden (IFB Dresden) to simulate rail network performance in conjunction with the OpenTrack rail network simulator developed by OpenTrack GmbH of Zurich Switzerland. Plateway Pty Ltd is the Australasian distributor of both products.

This tool is used in Europe and China for the simulation of both AC and DC railway overhead traction systems and is one of the most advanced software tools for this purpose on the market. The technical task of simulating the traction power supply performance is a difficult challenge as a result of the large number of variables impacting the operation of the railway power supply system. These include variations in power requirements of individual trains, train driving styles, train position on the network, as well as the condition and layout of the overhead traction system.

To validate the ability of the tool to deliver reasonable results, Queensland Rail conducted a proof of concept trial. The trial involved field measurement of the power supply performance of single trains under test conditions and of the power supply system feeding the Cleveland Line during five days of peak hour operation. Actual measurements were compared with the simulation. The peak hour train types varied on each day of the trial. The simulation tool was able to simulate the actual energy consumption within the required accuracy of 10%.

This is arguably, the most extensive calibration and verification exercise undertaken between a power supply simulation and measured system performance of a rail network.

The tool has been purchased by Queensland Rail to allow proof of new design concepts, analysis of the existing system performance, and an improved targetting of investment decisions. This will enable informed decision making and provide the opportunity to extract the maximum benefit from existing and new infrastructure.

For further details please visit:

<http://www.plateway.com.au>

<http://www.opentrack.ch>

<http://www.openpowernet.de>