



The Institution of
Railway Operators

P O Box 128, Burgess Hill RH15 0UZ • Tel: 01444 248931
Fax: 01444 246392 email: info@railwayoperators.org
Website: www.railwayoperators.org

The weather man



Network Rail's
Steve Scott
explains why
his fascination
with the weather is
more than just a hobby

The gales that tore through central and southern England on Sunday, 27 October 2002 left a very large hole in the rail industry's reputation as well as the network. It is a date that will forever be imprinted on my memory.

The following day saw widespread suspension of train services due to the most severe leaf contamination seen since the great hurricane of 1987. The new senior management team at Network Rail had been in office for just three weeks. They could have been forgiven for thinking of the inevitable jokes at their expense about the ability of a humble leaf or two bringing an entire network to a halt!

One maxim about the way Network Rail goes about its business is nicely summed up in the phrase 'out of adversity comes opportunity'. An opportunity to do things better and to make better people out of that opportunity – and it works! New processes, improved communication, investment in people and machinery, and perhaps most significantly the support of managers at the top of the organisation have all helped improve our game plan.

Importantly, it is not about management of weather – better people than me have tried and failed with that. It is about managing the impact of weather or mitigating the impact of extreme weather. As events on the US Gulf Coast demonstrated



Network Rail has stepped up plans to minimise disruption from snow and other extreme weather.

last summer, there comes a point when you shut down the railway and literally move out of town. Why? Because, if you can't do something safely, then you shouldn't be doing it at all. The 'tally ho' style of leadership and 'we love fire fighting' attitude has no place in today's railway. The aim is to manage down and if possible manage out the risk. A fare-paying customer starts their journey in the expectation that they will complete it safely.

If the storms of 2002 acted as a catalyst for change then more recent weather patterns are an ever-present reminder that our climate is presenting us with new risks and fresh challenges. Also new is the 'Railway Operational Code' under which railway group members must determine and then action matters relating to seasonal preparation and their response to forecasts of adverse or extreme weather.

There is now a dedicated small team at Network Rail led by myself, and an extended team comprised of a dedicated co-ordinator in each of the eight routes – a far cry from the part-time and inconsistent approach of five years ago. Also in the wake of the October storms of 2002 there was an independent review and calls for improved warning of impending disruption due to weather-related events. Network Rail took the initiative by setting a new company specification, a truly proactive approach.

Seasonal calendars, Extreme Weather Action Teams (EWAT) and

double red alerts are just part of the new vocabulary. As processes go they are not in themselves necessarily new. However, today's management style is often about reworking good local practice into a network approach and using state-of-the-art media for getting the right message into the minds of those who make the real time calls – in advance of the actual event.

Delivery has to sit at route and area level and, as with any safety related work, it is important to embed this activity into people's day job. Whether you are involved with maintenance, engineering or any other support function, there are few roles untouched by seasonal preparation and weather mitigation activity. Equipment plays a key role as well and for network-wide activity, such as train-borne railhead treatment, the focus is the National Delivery Service team based in York.

Substantial investment has been made over the last five years to replace life-expired or increasingly fragile heritage equipment. There is now a fleet of 32 self-propelled multi-purpose vehicles and 22 sets of wagons called rail head treatment trains which are operated between pairs of locomotives. Both types of train are modular in concept, with some units used to de-ice third rails whilst other parts of the fleet are readied for the annual war on weeds.

A recurring issue for the industry has emerged again this winter, the

challenge which some new electric trains have coping with snow and ice. Network Rail is working vigorously with the rest of the rail industry to minimise the effects of winter weather on new rolling stock. It is small consolation to passengers or freight shippers, but as an industry we are determined to deliver higher levels of performance in all weather conditions.

Our ability to manage extreme weather events has been put to the test in recent years. Take the operation of snow clearance equipment. A census was undertaken last summer to discover just how many hands had actual experience of ploughing in real snow drifts. Such has been the rarity of deep snow in the last 15 years we have almost exhausted the industry's combined expertise in dealing with it.

Network Rail has already begun finding solutions, with visits to European counterparts who regularly experience wintry conditions. By studying their most effective methods, investing in cutting-edge technology and combining this with our current methods, the industry is well on its way to being even better prepared with whatever Mother Nature may throw at us.

Understanding and managing the risk presented by seasonal variation and extreme weather is just as crucial to delivery of the PPM target as it is to maintaining a safe network. As a result Network Rail has become a much more demanding customer with suppliers of weather forecasting services. A 5-day outlook weather forecast has been developed together with a three stage 'coloured' alert status to provide early warning of potentially adverse conditions.

Getting one step ahead makes a real difference, but the reality remains the same. If you think you've got Mother Nature beat... think again! *Steve Scott is the national weather strategy specialist at Network Rail.*

DIARY OF EVENTS

ANNUAL LUNCH

Our 2006 Annual Lunch will be held in Manchester on Friday 28 April. Full details and a booking form were included in *Bulletin 8* sent to all members by post and also by email to the majority. Tickets are £28 per person for members and guests. Any companies wishing for a corporate table of 10 are welcome to contact us: please email a provisional booking to admin@railwayoperators.org or call 01444 248931.

SCOTTISH AND IRISH AREA

European matters in Glasgow: Our industry seems to spawn initials and acronyms, and our new Board Member John Glover has just published a dictionary of terms to help everyone understand what everyone else is talking about. There were more than a few new terms to contend with in Glasgow at our recent meeting, as we tried to come to grips with ERTMS or European Traffic Management System. We were guided through by Nigel Murphy of consultancy firm W S Atkins, which kindly sponsored our refreshments.

You could say that this topic too actually boiled down to a matter of everyone understanding what everyone else was saying, since one of the principal purposes of ERTMS is to allow trains to communicate freely with one signalling system as they criss-cross European borders without interruption: interoperability, in the jargon.

ERTMS brings with it ATP, the automatic control of trains approaching critical situations such as adverse signals or speed restrictions. Other things come with it as well, such as the GSM-R system of secure radio communication specifically for railways (Glasgow is a pilot site), and a huge price tag.

To put this in context, the THALYS trains – more acronyms – have on board some nine different systems to accommodate international routings, and these could be replaced by a single European system such as ERTMS. In short, lines would be re-signalled either as Level 1 (really not much more than ATP added to existing signalling), Level 2 (which dispenses with lineside signals and uses a radio version of the block system), and Level 3 (which takes the radio aspect further and could offer moving block – if anyone really wants it on mixed traffic networks).

Nigel stressed that although this was engineering of a complicated, fascinating and path-finding nature, the operators could not leave it to engineers. There were issues of what operating facilities would actually be offered by this form of control. For example, a provision for backing out of tunnels was in the design, but few operators across Europe actually wanted this complication.

On the other hand, it would be easier to achieve

reversible signalling, to take possessions quickly, and to mitigate risk at level crossings. Many of these matters were already irrevocably fixed in the design, following much discussion between the European railways. Operators needed to be more proactive, articulate and demanding in defining the applications for the system.

Other major issues were arising in the key interface with the driver. Nigel was adamant that the system was to be seen as a support to the driver, and not the other way round, which had occurred in the aircraft cockpit. Information would come to the driver by greater use of colour and by cues from an audio voice. There would be a DMI (Driver Machine Interface) display screen, which would include a 'planning area' which would meet the common requirement on the continental railways for both WTT and Sectional Appendix information to be in front of the driver at all times.

The input of data by drivers about their trains would be an essential feature, with the thought-provoking implication that this would be the first instance of drivers influencing the signalling system.

However, what about the risk of human error upon transition to unfitted routes? Or the change of driving style leading to over-dependency? And what of the need for traditional British levels of route-learning? And what about the practices when the system becomes degraded? And then there would be the impact on signallers, who would come into their own when managing failures or giving instructions to drivers to assist train regulation. And the impact on maintainers, who would have less work trackside for the signalling, but still need access for track work. And as for the Rule Book . . . well, it will never be the same again.

The theory was fleshed out by Paul Levesconte, who was heavily involved in an experiment on the Cambrian line, not at first sight the most likely place for ERTMS, but of great interest to those of us familiar with single lines in Scotland. Paul explained that four person years had gone into the creation of 25 operational scenarios to establish the design of the system and its application on operators.

He concluded that ERTMS enforces complexity on operators, and left us to ponder the implications of issues such as the Cambrian becoming a totally metric railway (the equipment has to be international after all, that is the point of it). But operators would gain things like mid-section authorities, and 'cooperative revocation of a movement authority' (the equivalent of putting signals back against a driver).

So, if anyone ever doubted the need for operators and the value of their perspectives on human factors and optimising the flow of traffic,

then the answer became clear during this fascinating presentation: it lies in working with the engineers and the front-line staff to ensure that we do grasp and use technology wisely, so that we build a safe and efficacious railway which really does recover the ground lost to road and air, as the politicians of Europe want.

April meeting: We had been planning something with an Irish dimension, but this has been overtaken by the recent great news that our colleagues now feel able to set about running a full Irish Area. So the meeting planned for 24 April is postponed for the moment. For information on all Scottish events and matters, contact Scottish@railwayoperators.org or phone Jim Summers, Acting Chairman on 01324 625284.

MIDLANDS AREA

Monday 24 April event (please note change of day). **Monday 15 May** – An emergency training exercise run by Link Associates, venue Trent House, Derby. **June** – summer outing visit to Great Central Railway. To contact the Midlands Area on any subject, call Julia Stanyard on 0121 345 5030 or email: Midlands@railwayoperators.org

SOUTH EAST AREA

Monday 15 May Speaker (TBA). **Monday 10 July** 'Basic Signalling' Operations Master Class.

Monday 18 September Speaker (TBA). **Monday 20 November** 'Track for Operators' Operations Master Class. All South East Area meetings take place at the Union Jack Club, Sandell Street, Waterloo. Doors open at 18:00hrs and the talks commence at 18:30hrs. To contact the South East area on any subject, please email: Southeast@railwayoperators.org

NORTH EAST AREA

All North East Area meetings normally take place at 17:30hrs for 18:00hrs at York. For further news on the IRO in the North East email: Northeast@railwayoperators.org

NORTH WEST AREA

Our May meeting will take place on **Wednesday 24 May** and will be a visit to the new Transpennine Express Depot at Ardwick. Please note this event is still provisional and we will keep you informed.

To contact the North West area on any matter, please contact Clive Evans on 01270-629009 or email: Northwest@railwayoperators.org

SOUTH WEST AREA

For information on all South West events and matters, contact Lawrie Hall on 01453 822150 or email: Southwest@railwayoperators.org