**Barnt Green Rail Noise - summary by Les Bailey**

## SUMMARY

The rail squeal issue has been ongoing for fifteen years and no satisfactory solution has become permanent.

The combination of side-rail grease and top-rail Kelsan can work, however the system does not work in wet weather. Additionally there are conflicting maintenance regimes which destroy remedial work, and the inability of Network Rail to correct issues quickly mean that noise prevails for lengthy periods of time.

There seems to be no resolve to find a solution that works in all weathers; we do get rain and it would seem a basic requirement of any solution that it is weather resistant or capable of being adjusted to combat poor weather.

## DETAILED ASSESSMENT

After many years of noise disturbance, and frequent complaints, there followed various meetings between Bromsgrove District Council, (BDC), Barnt Green residents and Network Rail (NR) representatives. No effective remedy has been found, a water spray system proving totally ineffective. Subsequently a 'friction modifier' system was installed at Barnt Green in August 2007. This proved a little more effective, however no enduring relief from the squeal was achieved. Residents continue to complain frequently, over a fifteen year timespan, and any quiet periods seem to be short-lived, sometimes only for a day.

BDC notified residents in August 2007 of the system being fitted. There were immediate complaints that noise was worse. Work was carried out and noise was reduced intermittently, with many complaints from residents. This situation prevailed until July 2008, when Worcestershire Regulatory Services became involved following further complaints from residents.

NR claimed that the increase in noise levels was due to a failure of the water suppression system; this seemed odd, since the system was supposed to be a 'kelsan' friction modifier...however NR said that work would be done to cure the issues.

NR has accepted that the squeal has increased and there is a problem with their system. It would appear that the NR maintenance structure was altered and the new regime compromised the efficiency of the track lubrication systems. This is because there are two maintenance teams, and one team destroys the work done by the 'anti-squeal' team; the regular maintenance team follows the 'anyi-squeal team and grinds/modifies rails. This destroys Kelsan and grease

coatings, and sometimes wrecks the applicators (we are told). Additionally, the 'anti-squeal' team works on an eight week scheduled frequency – thus it can be several weeks before remedial action to minimize squeal can be carried out.

It takes some time for the lubricant coatings to build back up on the track (they are distributed by dosing onto the wheels of each train which then gradually spread them along the line), consequently it can be weeks before any effect is noticed. We have been told that the maintenance programme, including staff training, is being reviewed and will be updated accordingly. There is no evidence that this has taken place; there are still long periods of disruption.

Work was carried out on the 27th July 2011; however the dramatic reduction in noise levels lasted only one day.

Further work was carried out on the 5th August 2011, additional lubricator fitted etc. and this did reduce noise levels. However by the 18th September 2011 noise levels were back to their worst.

Following more work, we then had a quiet period (two months) until December 2011, when the batteries that power the system were stolen. Replacements were promised for the 22nd February 2012. These were fitted late, but by March 2012 the squeal was as bad as ever.

Some small reductions in noise levels were achieved, however by May 2012 the levels were high again, and Worcestershire Regulatory Services installed noise measuring equipment, which confirmed high squeal levels.

Since then no substantial or lasting noise reduction was achieved until week commencing 03 September 2012; this lasted perhaps ten days until squeals developed again, although not at such high levels as previously experienced. That situation prevailed for some time – low squeal levels.

From the experience of the past few years it would seem that a permanent solution means intermittent high noise levels with no guarantee that low levels can be achieved or maintained for any length of time. Periods of wet weather, all too frequent, mean high noise levels regardless of this supposedly being a permanent solution. Extra lubricant apparently cannot be applied during/after rainfall.

We are told that the track is inspected every week and there are regular inspections by a specially trained maintenance team. Again, from the above experience, it is clear that the track system fails regardless of being inspected. This can be because of conflicting maintenance schedules or because the 'anti-squeal' team visits every eight weeks. Therefore it can be that if a fault is found which cannot be cured on the day, a further eight weeks will pass because we

are told that the eight week schedule cannot be changed, there can be no intermediate corrective visits – eight weeks is it.

The specially trained maintenance team that is inspecting and maintaining the equipment apparently cannot be directed to carry out remedial work on anything but an eight week schedule, which seems to be a blatant disregard for the duty of Network Rail to maintain a system which does not cause disruption to residents.

Even with a specially trained team, in July 2011 technicians failed to spot that the system was not working, and that there was no lubricant in the system whatsoever.

Whilst the system is apparently designed to operate throughout the year in all conditions, it is clearly ineffective during inclement weather. Surely any permanent remedy needs to withstand rainfall, it does happen.

Residents have asked if trains could run slower, since it is clear that noise is reduced when trains approach and leave the station (Redditch side) travelling slowly. However, Network Rail says that a trial in the summer of 2008 there was no appreciable reduction in wheel squeal when a speed reduction was imposed. Residents' experiences are to the contrary; currently (January 2013) slow trains are appreciably quieter. This is very apparent when trackside work is carried out – trains slow down and noise decreases. Residents firmly believe that slow trains are quieter.

Some units are noisier than others, and Network Rail does not know why. However, it is likely to be related to the differing wheel profiles of the Class 323 rolling stock that operates on the route. The Class 323 fleet is large and to ensure full availability, the wheels are maintained or "turned" on a lathe at different times – hence the differing profiles.

So why not make efforts to establish which profile produces the best noise characteristics? Obviously a low-noise-profile would be very helpful in alleviating the problems.

The Kelsan product was installed in May 2007, some ten years after the noise problem began. However, NR says it is still in trial mode and monitoring will continue. If adjustments are required they will be made.

Whilst this system does work it is clear that it has not achieved, in five years, anything like a consistent performance. Equally, there seems to be no attempt made to achieve a 'water resistant' product. Why not?