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Infected airwaves

Despite health concerns being linked to the police force's new Tetra radio system, roll out will continue this year. Rowena Byrne-Jones explores the evidence for a causal link and assesses potential insurer ramifications.

Much has been written recently on the potential for oesophageal cancer, and other health scares, caused by exposure to radio waves, with particular reference to the installation of a new and controversial radio system.

Currently, the Home Office is equipping the 53 police forces in England, Scotland and Wales with the Tetra system - Terrestrial Trunked Radio - at a cost of £2,9bn. Rollout of the new system will be complete by the end of 2005 and it will replace an outdated and unreliable VHF system. Approximately 2500 of the required 3500 transmitters have been erected and 65000 officers in 39 forces are using the system. Tetra will also be installed for the fire and ambulance services, and MM02 Airwave - the telecommunications company carrying out the installations - is currently bidding for its licences. The result will be made available during the next six months.

However, the system has provoked strong protests, with claims that the radio signals cause headaches, sickness, disturbed sleep and skin rashes. Although the health fears surrounding Tetra are linked to concerns about mobile-phone masts, as the symptoms that affect some people appear consistent - sleep deprivation, nausea, headaches, ear pressure and nosebleeds - the symptoms appear to stop when the Tetra exposure ends.

Precautionary approach

Prior to implementation of the system a report was issued, which concluded that, although the evidence to date did not suggest adverse health effects, a precautionary approach should be adopted. Despite this, however, Tetra went on to be piloted in Lancashire and now continues to be rolled out across the rest of the country.

The Police Federation then commissioned a report on Tetra in 2001 from the independent physicist Barrie Trower, who predicted the occurrence of cancers resulting from the use of Tetra and recommended that the system "be halted until further research on safety is carried out". He has warned that the system could lead to "more civilian death in peacetime than [caused by] all the terrorist organisations put together".

Yet, the implementation of the system was not halted. During the past two years, more than 300 officers in Lancashire and Yorkshire have reported numerous accounts of ill health that they have attributed to using the system - the complaints being compiled in a questionnaire that was put together by the Police Federation. Further complaints were raised in the Crime Investigation Unit in Lancashire after throat tumours had occurred as well as numerous other ailments.

In Leicestershire, the family of a police officer who died of oesophageal cancer have questioned whether the force's controversial new radio system caused the disease. A second officer, who is aged 40 and works for the same force, has also been diagnosed with the same cancer and is being treated.

As a result, the Home Office last year announced a £5m health study, including a detailed study of 150 officers and a 15-year monitoring programme involving 100,000 users.

The benefits?

So what exactly are the operational benefits of using this new system? Tetra promises to offer guaranteed national coverage, vastly improved sound quality and features such as emergency buttons on officers' handsets. But are these supposed benefits worth the risks to health? Is there any published evidence to suggest the health fears are well grounded? And what about our planning and communication laws - do they take into account health risks associated with the erection of masts, substations and use of handsets? The answer, presently, is no. Will future legislation ensure that it does?

Sir William Stewart, the former chief scientific adviser to the government, said in a report on mobile phone health concerns that frequencies around 16Hz - close to Tetra's 17.6Hz - should be avoided because previous research suggested they could cause potentially harmful changes in cell biology. However, Professor Colin Blakemore of Oxford University and chief executive of the Medical Research Council, has dismissed the health concerns surrounding Tetra.

A report last year from government-appointed independent advisers the National Radiological Protection Board concluded that: "Although areas of uncertainty remain about the biological effects of low-level radio-frequency radiation, current evidence suggests that it is unlikely that the special features of the signals from Tetra mobile terminals and repeaters pose a hazard to health."

However, the Police Federation insists that "current evidence" is inadequate since there have been no tests on humans of the effects of electromagnetic radiation from Tetra technology. This view was echoed at the National Society of Clean Air Conference in June 2004. Dr Mike Clark, NRPD scientific spokesman, says: "The NRPD continues to recognise the need for good and continuing research into this area, and there is already a large research programme - funded by the Home Office - looking into the possible health effects of Tetra."

Recently, Lisa Oldman, director of the campaign group Mast Sanity, said that the fact the government has announced such a programme proves that police officers are being forced to use an untried technology. "It is also far too late for many police officers who are already suffering, and the police have no way of complaining or doing anything about it. They are guinea pigs - and so are we."

Mast Sanity is now calling for an immediate public inquiry into the Tetra system as a whole. "It needs to not just look at the appalling risks our police officers are forced to take, but also the countless number of civilians who are suffering ill health as a result of masts erected close to their homes," argues Ms Oldman.

Local authorities have also voiced their concern over whether the Tetra network is safe, which only adds to the criticism directed towards MM02 Airwave from campaigners and MPs that the company is failing to consult with local communities over the public health fears. In July, MM02 Airwave was accused of illegally erecting two masts in Sussex by abusing emergency powers under the planning system.

Causation

What seems clear is that, if Tetra does have an effect, it is only triggered in those who are sensitive to low-frequency radio waves and are directly exposed. A recent survey of more than 400 people showed that, while around 40% had suffered from sleeplessness, and/or headaches since the masts arrived, others were not affected.

Tetrawatch argues that the system is untested, is being imposed secretly, is shunned by many other European countries including France, and that health fears are being underplayed by the government in the same way that, for example, the link between Creutzfeldt-Jakob disease and BSE (bovine spongiform encephalopathy) was in the early 1990s.

Tetrawatch spokesman John O'Brien stressed that the Tetra system in this country is different to both Tetrapol and other Tetra systems elsewhere because, in order to meet police requirements, it uses the pulsed technique, which is feared to create the symptoms. "This is an untried and untested system."

There is something different about this type of Tetra system compared with other mobile transmissions systems, and that is why we are worried about it."

Medical opinion is divided. On one side are the 'establishment' scientists, such as Professor Blakemore, who say there is no evidence that Tetra is unsafe. On the other, there are independent consultants such as Dr Gerard Hyland, a former head of physics at the University of Warwick, who believe otherwise. "We could be seeing a pandemic of brain tumours in 10 years," he told The Ecologist recently.

Curiously, The Ecologist pointed out there is now what some see as evidence of official back-tracking on the Stewart Report. Professor Blakemore, a member of the NRPB's advisory group and the Stewart Committee, has said 16Hz radio waves provide "no cause for alarm. I still hold to both of my previous statements. In principle, it would have been better if 16Hz pulsing could have been avoided. But that was said in the context of the strict precautionary approach of the Stewart Report."

Professor Lawrie Challis, deputy chairman of the Stewart Committee, said the 16Hz warning was made in recognition of the existence of "unreplicated research from the 1970s", and there was "no evidence that 17.65Hz modulation of the emission from Tetra phones would lead to any adverse health effects".

Our response

So how should we in the insurance sector respond? At present it would appear that insurers are simply maintaining a watching brief. However, the potential for employers', public and product liability insurers is great.

The public sector insurer is likely to be hardest hit if the uncorroborated evidence so far presented is supported by independent test results currently being conducted.

When combined with expert reports querying the safety of the new system, the level of complaint from officers piloting it has been substantial enough to persuade the government to carry out an investigation into its safety for all users. And yet, serving police officers will be required to continue to use the system in the absence of independent reports confirming that it is actually safe. Furthermore, although the trial continues, fire and ambulance crews will be operating the system in the months to come.

Simply put, employers are providing their employees with equipment, the safety of which is not known. Should claims be forthcoming against the employer in the future, EL insurers may have some difficult questions to answer. With much negative discussion having taken place already and no confirmed scientific evidence to verify safety, it may be difficult in future to dispute that the employer was convinced that the equipment was safe at the time of issue, it may also be difficult to argue a "scientific knowledge" defence to any such claims as scientific opinion is so clearly divided.

Allergic conditions

There is no doubt that causation remains a live issue and the burden is always upon the claimant to prove their symptoms relate to an exposure to radio waves and not any other agent to which they may have been exposed. It is noted that certain people suffer and others do not and some susceptibility is required. It is also becoming apparent that some are 'allergic' to mast emissions, with such allergic conditions being recognised in Sweden. Yet, as we in the industry are aware, you take your victim as you find him.

In addition to the potential for EL insurers' exposure, public and product liability insurers should also be on their guard. Mast Sanity is aware of a significant number of private individuals who state that the quality of their lives has been detrimentally affected by living and working in areas where masts have been erected. Private residents in Cornwall in particular have voiced concerns as to the effect of local masts resulting in many residents moving house to areas without the presence of masts. A number of public nuisance claims are being considered.

Furthermore, rights of contractual indemnity may be available to an employer against whom claims have been submitted from the manufacturers and suppliers of the masts and handsets and product liability insurers should be on their guard with the potential for class actions being levied against them in time to come. There may also be claims against those owner/occupiers who have allowed the masts to be erected on their land.

The increased incident of future claims will very much depend on the results of further tests and trials, which are currently being conducted. Liability insurers should be aware of the potential for these claims and ignore them at their peril. The financial implications may be substantial.

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