

REPORT ON THE HEALTH AND SAFETY OF TETRA MASTS

Prepared for the Isle of Wight Fire & Public Safety Select Committee

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1. INTRODUCTION

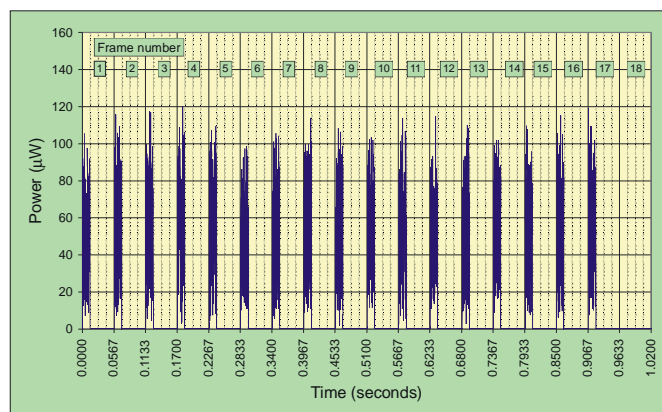
- 1.1. This report has been prepared in response to a request from the Fire & Public Safety Select Committee of the local authority to assist the Isle of Wight Council in formulating a view on the health and safety implications of Tetra masts/base stations.
- 1.2. Having been asked for an opinion, the Director of Public Health has read widely on the issue, attended a meeting with health professionals from other districts, corresponded with two members of the Ryde Tetra Action Group and evaluated documents produced by activists.
- 1.3. The health and safety of Tetra base stations has been reviewed by an independent expert committee, of eminent scientists¹, set up by the National Radiological Protection Board (NRPB), resulting in detailed published reports. The NRPB's guidelines are in accord with recommendations produced by the regulators of other countries and have been accepted by the UK government (see appendix A). The British Medical Association has produced a recent update (see appendix B).
- 1.4. The author of this report is not a specialist in the field of telecommunications and is unable to repeat the detailed work undertaken by the NRPB, yet he hopes to assist the Select Committee by:
 - Clarifying the nature of Tetra base station emissions;
 - Detailing why a study of the health and well-being of residents living in the vicinity of the Tetra mast located on the Commodore Cinema in Ryde would not be approved by the District Ethics Committee that has to sanction healthcare research;
 - Summarising feedback from visits made to health professionals in Ryde GP surgeries;
 - Addressing points raised by the Ryde Tetra Action Group and others;
 - Discussing the arrangements on planning permission for telecommunications masts.
- 1.5. The Director of Public Health has found it of note that although activists include individuals with academic qualifications, they are not supported by a significant number of eminent scientists or generally by academics working in the specific field of telecommunications health and safety. In particular, one of the key points repeatedly made by activists appears to be unfounded (see section 2.4 to 2.6).

¹ Scientists who hold senior university posts (professors/heads of department) or who have published extensively in the peer reviewed literature on the subject in question.

2. THE NATURE OF TETRA BASE STATION EMISSIONS

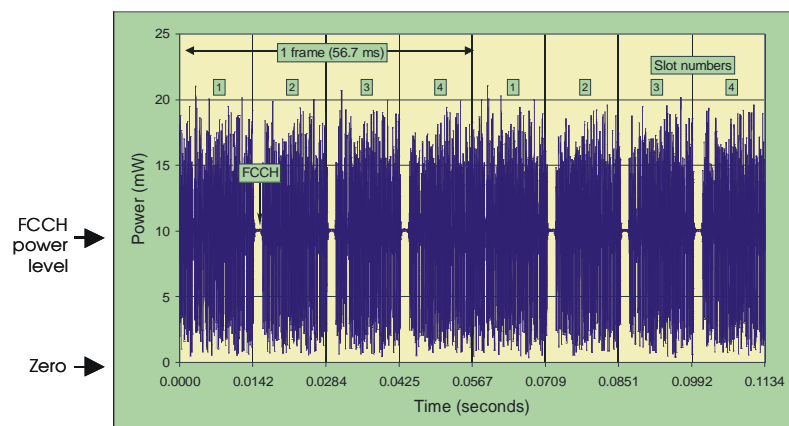
- 2.1. The Commodore Cinema in Ryde has three transmitters on its roof, two of which have been there for seven years without apparently causing concern (see appendix C).
- 2.2. The Ryde Tetra Action Group have stated that *“normal human brainwaves modulate at a frequency of between 16Hz and 18 Hz, Tetra microwaves are carried on a pulsing frequency of 17.6Hz and the Action Group believe this would therefore interfere with normal human brain function”*.
- 2.3. Signals from Tetra **handsets** are pulsed at a frequency of 17.6Hz (see figure 1) and, in view of a recommendation of the Stewart Committee (see appendix D), the health and well-being of police users of Tetra handsets is being monitored in a properly conducted epidemiological study.

Figure 1: Power Waveform from Tetra Mobile²



- 2.4. The signal for a Tetra **base station** is shown in figure 2, where it can be seen that it is not pulsed (the signal does not drop to zero as it does in figure 1) and it is not amplitude modulated at 17.6Hz.

Figure 2: Tetra Base Station Power Waveform³



↑ ↑
Examples of points at which the power would have to drop to zero for it to be said that pulsing is occurring at 17.6Hz. Power drops to zero between these points would indicate a higher frequency than 17.6Hz.

² From technical note to Documents of the NRPB 12(2), 2001

³ From technical note to Documents of the NRPB 12(2), 2001

2.5. The human brain consists of millions of nerve cells that function by using electrical potentials to process information. The net effect of all this electrical activity can be recorded on the scalp as an electroencephalogram (EEG). Under various circumstances, different frequencies predominate (see table 1). The suggestion that normal human brainwaves modulate at a frequency of between 16Hz and 18Hz is incorrect.

Table 1: EEG frequency ranges

<i>Delta</i>	<i>< 4Hz</i>
<i>Theta</i>	<i>4Hz to 7.9Hz</i>
<i>Alpha</i>	<i>8Hz to 12.9Hz</i>
<i>Beta</i>	<i>13Hz up to about 40Hz</i>

2.6. Base station emissions are not modulated at 17.6Hz and the precautionary recommendation made by the Stewart Committee does not apply to base stations. The recommendation was made on the basis of experiments on cells in culture, not whole organisms (see appendix C), and not on the basis of hypothesised 'interference' with brain function.

2.7. Since the Stewart Report in 2000, the UK has adopted guidelines recommended by the International Commission on Non-Ionising Radiation Protection (ICNIRP). These guidelines have wide acceptance internationally and, based on published measurements by OfCom and NRPB, emissions from Tetra masts are likely to be well below ICNIRP guidelines in publicly accessible areas.

3. WHY A STUDY OF THE HEALTH AND WELL-BEING OF RESIDENTS LIVING IN THE VICINITY OF THE TETRA MAST LOCATED ON THE COMMODORE CINEMA IN RYDE WOULD NOT BE APPROVED BY THE DISTRICT ETHICS COMMITTEE

3.1. The issue of a local health study has been discussed in letters to the editor of the County Press and because the Director of Public Health was concerned that unrealistic expectations might be raised, he replied (see appendix E).

3.2. There are a number of difficulties with a local study:

- Exposure levels are very low, geographically variable and cumulative exposure cannot accurately be measured (see 3.3);
- Suggested health effects are numerous and some of the symptoms are common among the general population (see 3.5);
- Very large numbers of subjects would be required for a study to reach a positive or negative result;
- There is no published peer reviewed evidence of a consistent health effect associated with low levels of exposure from base stations.

3.3. The Action Group have found that the level of Tetra base station emissions varies from point to point, depending on undulations of the ground, the proximity of buildings, etc. and not directly with how far any particular point is from the base station (see appendix E). Levels also vary within a building from room to room, depending on the location of windows and other factors. It is therefore not possible to estimate a particular individual's cumulative exposure just on where they live.

- 3.4. Low level Tetra exposure occurs throughout the Island, as the system is designed for full ground cover, e.g. police officers are able to use their radios in any location. This is analogous with the position in the respect to mobile phones and BBC/commercial radio and television, except these modalities not infrequently have areas where no reception can be obtained. Basically, if the phones work in a location, then people there will be exposed to the signal. However, signal strength is not simply related to distance from a base station. Switching one mast off may not materially decrease daily exposure of local residents. It may just produce some 'blind spots' where Tetra handsets cannot pick up a signal.
- 3.5. It has been suggested that Tetra base station emissions are associated with tinnitus, headache and depression (symptoms that are common and difficult to quantify) and also seizures, behavioural changes, stroke and cancer, including leukaemia.
- 3.6. Even if it were possible to accurately measure cumulative low-level exposure, deciding on the health and well-being outcomes to record would be controversial and obtaining data would be time consuming for the study subjects.
- 3.7. In addition, very large numbers of subjects would be required for a study to reach a positive or negative result. To date, there is no published peer reviewed evidence of a consistent health effect associated with low levels of exposure from base stations.
- 3.8. Given the above uncertainties, the District Ethics Committee would not approve a local study.
- 3.9. The government has, however, funded research on the occupational exposure of police officers (higher level of exposure from handsets where the length of use can be accurately determined from computer phone logs) and where their health and well-being can be repeatedly measured and then compared with officers who do not use Tetra handsets.

4. FEEDBACK FROM VISITS MADE TO HEALTH PROFESSIONALS IN RYDE GP SURGERIES

- 4.1. The author visited all four Ryde GP surgeries and debated the issue of Tetra with health professionals.
- 4.2. All of the practices reported that Tetra was infrequently raised by patients, although one GP pointed out that residents might not be bringing their concerns to health professionals.
- 4.3. A small number of patients (about a dozen) had expressed concerns that Tetra was the cause of their ill health.

5. ADDRESSING POINTS RAISED BY THE RYDE TETRA ACTION GROUP AND OTHERS

- 5.1. At the March 2004 meeting of the Select Committee, the Ryde Tetra Action Group made a number of specific points. A response is given in appendix F.
- 5.2. Recently, the Director of Public Health received a number of emails about a police user of Tetra who has developed oesophageal cancer. An anonymised copy of an exchange of emails is attached as appendix G.

6. PLANNING PERMISSION FOR TELECOMMUNICATIONS MASTS

- 6.1. The Island's Unitary Development Plan (UDP), which was approved on 18 May 2001, provides the framework to guide development on the Island and to protect and enhance the environment. Planning policy on telecommunications equipment is contained in section U17 of the UDP, which states:

"When considering proposals for aerials, masts, dishes or other telecommunications or similar structures, the Council will need to be satisfied that the sharing of any existing installation is not technically feasible. Within designated areas of landscape, nature conservation, scientific or historic interest, such developments will not be permitted unless there is a compelling technical justification and no suitable site or sites outside the designation. Where no practical alternative location is available and a new structure is necessary, the Council will expect the site chosen and design to be visually and technically the least harmful that can be achieved and that the facility will be made available for future sharing. Removal of apparatus on cessation of use will be required."

- 6.2. The government's planning policy framework for telecommunications development is set out in Planning Policy Guidance (PPG) 8, the latest version of which is effective from 22 August 2001. It sets out the government's policy, which is to facilitate growth of new and existing telecommunications systems, whilst minimising the environmental impact of any installation.
- 6.3. Policy dictates that applications for development that are in accordance with the UDP should be allowed unless material considerations indicate otherwise. PPG 8 may be a material consideration in individual applications for planning permission and prior approval and appeals.
- 6.4. All development requires planning permission, although 'minor developments' are granted planning permission through 'permitted development rights'. These allow specified development, subject to certain conditions and limitations, without the need to make a full planning application to the Local Planning Authority. Minor developments include masts of 15 metres and below.

Health considerations

- 6.5. PPG 8 sets out the government's view on public health concerns and the approach that local planning authorities should take:

"Health considerations and public concern can in principle be material considerations in determining applications for planning permission and prior approval. Whether such matters are material in a particular case is ultimately a matter for the courts. It is for the decision-maker (usually the local planning authority) to determine what weight to attach to such considerations in any particular case." (Para 29)

"However, it is the government's firm view that the planning system is not the place for determining health safeguards. It remains central government's responsibility to decide what measures are necessary to protect public health. In the government's view, if a proposed mobile phone base station meetings the ICNIRP guidelines for public exposure it should not be necessary for a local planning authority, in processing an application for planning permission or prior approval, to consider further the health aspects and concerns about them." (Para 30)

Isle of Wight Council moratorium

- 6.6. Since January 2001, the Council has had a moratorium on the use of Council land for any new mobile phone masts.

7. CONCLUSIONS

- 7.1. The author has not found grounds for doubting the professional integrity of scientists working for the NRPB or the guidance issued by that organisation on safe emission levels from Tetra base stations.
- 7.2. The author has concluded that although those who have health and safety concerns about Tetra include individuals with academic qualifications/university posts, it does not include a significant representation of eminent scientists nor do various widely circulated reports represent balanced critiques of the literature that have been subject to peer review.
- 7.3. The author has demonstrated that a local study of suggested association between Tetra base station emissions and physical health effects is not practicable.
- 7.4. Based on the view of health professionals in other districts and GPs in Ryde, the author has concluded that the number of people who have personal health concerns about Tetra severe enough to consult their GP is limited.
- 7.5. The author has noted that of the 15 Tetra base stations installed on the Island, the Ryde cinema site has caused a disproportionate amount of concern and this appears to be related to the planning process. Recommendations on how this process might be modified are made.

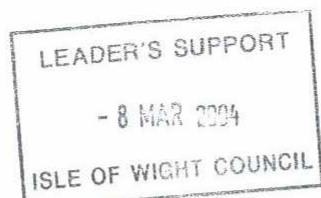
8. RECOMMENDATIONS

- 8.1. The Council should invite the NRPB to issue an authoritative statement on any possible health effects of Tetra and any significant developments in knowledge since the Stewart Report in 2000.
- 8.2. Operators should be asked to follow the best practice recommended by the Mobile Operators Association (MOA) and provide roll-out plans for telecommunications equipment on an annual basis. This information could then be made available to the public by the Council annually.
- 8.3. Pending any legal requirement to do so, Operators should be encouraged to seek full planning permission for all telecommunication mast installations where an application for prior approval is required
- 8.4. Operators and Planning Authorities should work together to find an optimal environmental and network solution on a case-by-case basis. This should include consideration of alternative sites and the planning application should clearly state the reasons for choosing the particular site.
- 8.5. In relation to base stations sited within or near to educational or medical facilities, that the beam of greatest intensity should not fall on any part of the grounds or buildings without agreement, in the case of schools, from the governors and parents (based on the Stewart Report). Operators should provide full information to the school prior to a planning submission.
- 8.6. The Council could consider lifting the moratorium on the siting of base stations on Council-owned land or property since this is not consistent with consideration of all available options.
- 8.7. The Council could produce an information leaflet for the public, setting out planning policy regarding telecommunications equipment, similar to that produced by Basingstoke & Deane Borough Council (see Appendix H).
- 8.8. Operators should be encouraged to follow Mobile Operators Association best practice guidelines and hold pre-application consultation with all those who have an interest in a development, including residents.
- 8.9. Operators should be reminded of the importance in abiding by the 10 commitments published by the Mobile Operators Association (see Appendix I).

**Reply to the Leader of the Council from the
Office of the Deputy Prime Minister**



Yvette Cooper MP
Parliamentary Under Secretary
of State



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- 4 MAR 2004

TETRA MASTS

Thank you for your letter of 26 February about the planning controls over telecommunications masts.

You will appreciate that it would be inappropriate for the Government to comment on any individual cases. You may want to contact Josh Berle, Head of Regional Communications at Airwave mmO2 Ltd, 1N 12 Wellington Street, Slough, SL1 1YP (07734 096445) who has committed to responding to any concerns raised with them. I should point out that the Home Office is the sponsoring department for the polcie's TETRA project and that Airwave mmO2 Ltd is a separate company from O2 Ltd.

The Government takes very seriously public concern about the possibility of health effects associated with telecommunications systems. Our advice is based on the Stewart Report on health effects of mobile phones and base stations (www.iegmp.org.uk). Stewart recommended a precautionary approach to the development of this technology and made proposals for further research.

For base stations Stewart concluded that: "the balance of evidence indicates that there is no general risk to the health of people living near to base stations on the basis that exposures are expected to be small fractions of guidelines."

The Government accepted the precautionary approach and has therefore introduced new measures to ensure that people's exposures from base stations meet the guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP). These guidelines are five times tougher than they had been for the public and include TETRA and 3G base stations.

Another recommendation of the Stewart Report was the auditing of emissions from base stations. In an ongoing audit, OFCOM (formerly the Radiocommunications Agency) has measured exposures around nearly 300 base stations to date (www.ofcom.org.uk). TETRA base stations are also now being measured. In all cases exposures have been below, and mostly thousands of times below, the guidelines.

The Stewart Group had already noted that "for base station emissions, exposures of the general public will be to the whole body but normally at levels many times less those from handsets."

The Stewart recommendation for further research has been followed up through the new Mobile Telecommunications and Health Research (MTHR) programme (www.mthr.org) that is jointly funded by both Government and industry. The research is aimed mainly at the areas identified in the Stewart Report and those proposed in a report on TETRA by the National Radiological Protection Board's independent Advisory Group on Non-ionising Radiation (AGNIR). The process will ensure that Government and the public are kept up to date with new research findings.

Stewart also recommended that the issue was reviewed again after three years and in January the NRPB's Advisory Group on Non-Ionising Radiation published their report "Health Effects from Radiofrequency Electromagnetic Fields". AGNIR has examined recent experimental and epidemiological evidence for health effects due to exposure to radiofrequency (RF) transmissions, including those associated with mobile telephone handsets and base stations. They also concluded "Exposure levels from living near to mobile base stations are extremely low and the overall evidence indicates that they are unlikely to pose a risk to health."

You raise the issue of potential health concerns about the TETRA system. Following a request to the NRPB by the Home Office, the issue of possible health effects caused by signals from TETRA base stations was comprehensively addressed in a report by NRPB's independent Advisory Group on Non-ionising Radiation (AGNIR), chaired by Sir Richard Doll. The report on Possible Health Effects from Terrestrial Trunked Radio (TETRA) was published in 2002 in the Documents of NRPB (Volume 12 No2, 2001) and is also available on the NRPB web site: www.nrpb.org. The report noted that the signals from TETRA base stations, like their mobile phone counterparts, are not pulsed. There is, therefore, no reason to believe that signals from TETRA base stations should be treated differently from other base stations. The AGNIR report also found that exposures of the public to signals from TETRA base stations are small fractions of international guidelines.

However, the Government is keeping the whole area of mobile phone technologies under review in the light of further research.



YVETTE COOPER

British Medical Association Mobile Phones and Health – an update, June 2004

Summary

The BMA's 2001 recommendation to adopt a precautionary approach to mobile phones while research remains inconclusive is still valid. This is compatible with the Government's own policy. The BMA continues to support the ongoing national and international commitment to research into possible adverse effects of mobile phones. We will continue to keep a watching brief on forthcoming research and policy.

In May 2001 the BMA's Board of Science and Education published an interim report Mobile phones and health. This summarised the current knowledge on mobile phones and health, and outlined ongoing and planned research. The report noted that, although published reviews had found small physiological effects, there were no definite adverse health effects from mobile phones or their base stations. This update provides a brief outline of some of the most important research and policy developments in this field since 2001.

Research published since the BMA's interim report on mobile phones and health

The most influential UK research on mobile phones in 2001 was 'The Stewart Report' (2000)¹. This recommended that a precautionary approach be adopted until more detailed and scientifically robust information on any health effects becomes available.

Several pieces of research on mobile phones and health have been published since the BMA's mobile phone report. Some of these have reported possible adverse effects on health. For example:

- In January 2002, the Health Council of the Netherlands published an advisory report 'Mobile Phones: An Evaluation of Health Effects'². This provided an overview, based on scientific literature, of whether exposure to electromagnetic fields from antennas and mobile phones can adversely affect health. It concluded that the electromagnetic field of mobile phones does not constitute a health hazard, according to the present state of scientific knowledge. However, further research is needed to better understand the possible effects, especially long-term, of mobile phones on health.
- In December 2003, the Swedish Radiation Protection Authority's Independent Expert Group on Electromagnetic Fields published its first annual report³. The report concluded that the scientific results do not warrant any firm conclusions about the

¹ UK Independent Expert Group on Mobile Phones (IEGMP) (2000) Mobile phones and health. London: The Stationery Office. Commissioned by the Government and chaired by Sir William Stewart.

² Health Council of the Netherlands (2002) Mobile telephones: an evaluation of health effects. Health Council of the Netherlands.

³ Swedish Radiation Protection Authority's Independent Expert Group on Electromagnetic Fields (2003) Recent research on mobile telephony and cancer and other selected biological effects: First annual report from SSI's Independent Expert Group on Electromagnetic Fields.

possible biological effects of radio frequency electromagnetic fields. However, intense research is currently ongoing in several countries. Given the complexity of the research area the report claimed that it is essential that both positive and negative results be replicated before being accepted. More research is needed to address long-term exposure due to the prolonged latency period of many chronic diseases.

Although several small reports and campaigns have been launched since 2001, larger, more influential reports have also been published in the UK. These have reviewed the existing research. In general they have concluded that evidence of adverse effects has been inconclusive and needs to be replicated. The most important UK research completed since the BMA's interim report is listed below.

National Radiological Protection Board (NRPB): Mobile phones and health – an update

In March 2003, the National Radiological Protection Board (NRPB) produced a description of work undertaken since the Stewart Report. The recommendations and outcomes of the Stewart Report were reviewed.

The Independent Advisory Group on Non-ionising Radiation (AGNIR): Health effects from radio frequency electromagnetic fields. Following the Stewart Report, the UK Government asked the NRPB to carry out a comprehensive review of the health effects of radio frequency. The board of the NRPB asked for this to be undertaken by AGNIR, which reported in 2003⁴.

AGNIR examined recent experimental and epidemiological evidence for health effects due to exposure to radio frequency (RF) transmissions, including those associated with mobile telephone handsets and base stations. The AGNIR report, Health effects from radio frequency electromagnetic fields: report of an independent Advisory Group on Non-ionising Radiation, is a comprehensive study that provides a good summary of research undertaken since the Stewart Report. It contains specific conclusions on cellular, animal, brain activity and cognitive function studies and cancer and non-cancer epidemiology. The report also draws the following overall conclusions.

- There is no biological evidence for mutation or tumour causation by RF exposure, and epidemiological studies overall do not support causal associations between exposure to RF and the risk of cancer, in particular from mobile phone use.
- A number of studies have suggested possible effects on brain function at RF exposure levels comparable with those from mobile phone handset usage, but AGNIR regard the overall evidence as inconclusive. Other studies have indicated effects of pulse modulated RF on the movement of calcium ions in cells and tissues of the nervous system. However, AGNIR found that the early results are not supported by recent, better conducted studies.
- Regarding exposures in the vicinity of mobile phone base stations, AGNIR has examined data from a number of surveys and concluded that exposure levels are extremely low and the evidence indicates that they are unlikely to pose a health risk.

⁴ Health effects from radiofrequency electromagnetic fields: report of an independent Advisory Group on Non-ionising Radiation. Chiltem: NRPB National Radiological Protection Board (2003)

Overall, the AGNIR report concluded:

"In aggregate the research published since the IEGMP report does not give cause for concern. The weight of evidence now available does not suggest that there are adverse health effects from exposure to RF fields below guideline levels, but the published research on RF exposures and health has limitations, and mobile phones have only been in widespread use for a relatively short time. The possibility therefore remains open that there could be health effects from exposure to RF fields below guideline levels; hence continued research is needed."

"Exposure levels from living near to mobile phone base stations are extremely low, and the overall evidence indicates that they are unlikely to pose a risk to health."

This generally reinforces the message of the Stewart Report.

Significant current research

International Agency for Research into Cancer (IARC) – INTERPHONE Study

The Interphone study is a series of multi-national case-control studies. It is expected to have greater potential than any previous or individual study to provide definitive information on the possible health effects of mobile phones. Separate studies are being carried out for acoustic neurinoma, gliomas and meningiomas and tumours of the parotid gland, the tumours that, if radio frequency is carcinogenic, would be most likely to be related to mobile telephone use. A study of leukaemia risk is also planned.

The primary objective of these studies is to assess whether RF exposure from mobile telephones is associated with cancer risk. The studies are based on a common 'core' protocol, describing common procedures to be followed in all participating countries. National studies, however, may have specific features or a wider scope than the international study.

Participating countries are Australia, Canada, Denmark, Finland, France, Germany, Israel, Italy, Japan, New Zealand, Norway, Sweden and the UK. In order to maximise the likelihood of finding a risk if it exists, the studies are mainly focused on tumours in relatively young people (those aged 30-59 years – who had the highest prevalence of mobile phone use 5 to 10 years ago) and on regions within the participating countries with longest and highest use of mobile phones. The first results of the study are expected in late 2004.

UK Department of Health – The LINK Mobile Telecommunications and Health Research (MTHR) Programme

This Department of Health programme was launched in February 2001 and was established under an independent Programme Management Committee (PMC).

The LINK programme has a research budget of £7.36 million and is jointly funded by government and industry. The first 15 research projects to be funded were announced in 2002. Project updates can be found at: Mobile Telecommunications and Health Research.

The first studies were mainly concerned with the use of mobile phone handsets. More recently the programme has commissioned an epidemiological study addressing public concerns about possible health risks from exposure to emissions from base stations. The programme includes three population studies that are designed specifically to look for cancer incidence in relation to mobile phone use. Two of these form part of the multinational INTERPHONE study being conducted by IARC.

EU research

EU health commissioner, David Byrne, has appointed an expert committee 'The Scientific Committee on Emerging and Newly Identified Health risks (SCENIHR)' to monitor risks from emerging technologies and scientific developments such as mobile phone radiation.

Policy changes and research relating to the BMA 2001 report

Mobile phones and driving

Of all the aspects of mobile phones and health examined by the Stewart Group, the only one with conclusive evidence of substantiated risk was an increased hand-held mobile phone was made illegal in UK in December 2003. The penalty is a £30 fixed penalty or up to £1,000 on conviction in court. Hands-free sets are not covered by the new rule and people can still dial phones whilst driving – providing they are not holding them. However, drivers can still be prosecuted for careless driving if they drive irresponsibly whilst talking on the phone.

TETRA systems

The BMA mobile report noted that little evidence existed on TETRA systems and therefore, that further research was necessary. In 2001 the AGNIR published a report, Possible Health Effects from Terrestrial Trunked Radio (TETRA)⁵.

This concluded that there is no reason to believe that signals from TETRA base stations should be treated differently from other base stations. Exposures of the public to signals from TETRA base stations are small fractions of international guidelines.

“Although areas of uncertainty remain about the biological effects of low level RF radiation in general, including modulated signals, 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.”

TETRA technologies are included within the MTHR programme. An associated programme, focusing specifically on TETRA, is being funded by the Home Office. A number of projects are already under way but it will be some time before the results are available.

⁵ National Radiological Protection Board (2001) Possible health effects from terrestrial trunked radio (TETRA): Report of an Advisory Group on Non-ionising Radiation. Chiltern : NRPB.

Protective devices

In June 2001, a DTI report on mobile phone shields finds that they vary in effectiveness. The study added that personal hands-free kits 'remain one of the best approaches' for cutting absorption of radiation⁶.

Sociological effects

It is worth noting that, since the publication of our interim report, picture messaging has become widespread. This raises new child protection issues.

Networks

A code of best practice on mobile phone network development has been published by the Office of the Deputy Prime Minister with the co-operation of central government, local government and industry (2002). For more information see Office of the Deputy Prime Minister's website.

RF exposure limits and information

Since the Stewart Report, the Radiocommunications Agency (RA) and the NRPB have carried out and published measurements of people's exposure to RF near to base station sites. The data shows that exposure to signals from masts at locations accessible to the general public is very much lower than guideline maximum levels advised by the International Commission on Radiological Protection (ICNIRP). These findings can be found on National Radiological Protection Board website and Office of Communications website. The sites of base stations in the UK, and their power, are now shown on the Sitefinder location of the Ofcom website.

Following a consultation in 2003, publication of new NRPB exposure guidelines for electromagnetic fields (comparable with international guidelines) is expected in spring 2004.

The BMA's 2001 report recommended that mobile phone manufacturers should provide an indication of the power/radiation output from their handsets. Information on the specific energy absorption rate of new phones has been made available by the main manufacturers from October 2001.

⁶ Manning, MI & Densley M (2001) On the effectiveness of various types of mobile phone radiation shields. London: DTI.

APPENDIX C

Details in respect to masts on the Commodore Cinema, Ryde

Operator	Site ref	Height of antenna	Frequency range	Transmitter power	Maximum licensed power	Type of transmission	Planning
Orange Vodafone	1358	15.3 metres	900 MHz	23.88 dBW	32 dBW	GSM	Pre-1997. First mast to be erected. Permitted development.
MMO2	HAM023A	22.8 metres	400 MHz	21 dBW	25 dBW	TETRA	Planning application approved 4/3/03. Commissioned October 2003.
O2	4339	13.8 metres	900 MHz	28.2 dBW	32 dBW	GSM	Permitted development. Approved decision dispatched 2/7/97.

Quotes from the Stewart Report (2000)

“Although the weight of evidence suggests that RF exposure at average levels, too low to cause significant heating, does increase the release of calcium from brain tissue, there are contradictory results. The suggestion that these effects occur specifically with fields that are amplitude modulated at extremely low frequencies is intriguing but difficult to interpret. Further, this finding is of no obvious relevance to mobile phone technology, where the amplitude modulation within the critical frequency band is very small. If such effects occur as a result of exposure to mobile phones, their implications for cell function are unclear and no obvious health risk has been suggested. Nevertheless, as a precautionary measure, amplitude modulation around 16Hz should be avoided, if possible, in future developments in signal coding.”

(Para 5.59, Mobile Phones and Health, Independent Expert Group on Mobile Phones, May 2000, available on www.iegmp.org.uk)

Conclusion of the Advisory Group on Non-ionising Radiation (2001)

“It is recognised that calcium plays an important role in many biological processes, especially in the function of nerve cells. Moreover, as the Independent Expert Group on Mobile Phones pointed out, there is evidence that RF fields, amplitude-modulated at about 16Hz, may influence the leakage of calcium ions from tissues. However, findings have been contradictory; they are more uncertain for living than for non-living tissue and no associated health risk has been identified. It is notable that the signals from Tetra base stations are not pulsed, whereas those from mobile terminals and repeaters are. Although areas of uncertainty remain about the biological effects of low level RF radiation in general, including modulated signals, 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”.

(Para 12, Possible Health Effects from Terrestrial Trunked Radio, Report of an Advisory Committee on Non-ionising Radiation, Doc NRPB 12(2) 7 2001, available on www.nrpb.org.uk)

Article and letter that have appeared in the County Press about a local study

ARTICLE: NEW PROBE CALL AFTER TETRA TESTS (29 April 2004)

Campaigners are demanding a thorough study into the effects of Tetra on the health of the people of Ryde. The call comes as the IW Council seeks a detailed report from the Island's director of public health, Dr Paul Bingham, based on data collected from family doctors in Ryde. However, the campaigners have pointed to the need to correlate health effects with areas of the town experiencing most radiation from the Tetra mast on top of the town's Commodore Cinema. They said this week that only detailed analysis would build up an accurate picture of how Tetra was affecting the well-being of Ryde residents.

Campaigner John Ackroyd said: "We have bought a signal strength meter, which we have used throughout Ryde and which has thrown up some unexpected results. "In some areas, where you would expect a strong signal, there is not one and in other areas, where you would not expect it, there are strong levels. It would appear the signal is channelled by buildings and relies heavily on the topography of the town. But there are many surprises. At Dover Park Primary School, close to the mast, there appears to be only a weak signal while where I live at Hollytree Close, which is much further away, it is quite strong. In my road there are three cases of tinnitus, a condition which has been associated with Tetra, but you would not automatically associate that with Tetra if you did not know the signal strength. Health data has to be put together with signal strength but that is not just a matter of drawing rings on a map related to how close to a mast people's houses are. Consideration has to be given to how this is affecting people's quality of life."

The call for detailed assessment of the impact of Tetra comes after the IW Council's public safety select committee called for a meeting of the full council to debate Tetra within the next four months to examine its health effects. Communications giant O2, which is providing the police communications network, maintains no ill effects have been proven.

Mr Ackroyd said: "We have received an acknowledgment to our complaint to the local government ombudsman about how the council gave permission to O2 for the Commodore mast and after our complaint was received by the ombudsman we have started receiving long-awaited replies to our letters from the council. The council did not adopt a sequential approach when it gave permission to O2. It did not look for the site that was best for people; it just gave permission for the site that was asked for when part of its mission statement is to improve the health and quality of life of its residents. It carried out minimal notification so no one knew what was happening and, when it came to consultation, there was none."

A council spokesman said that the authority had done all that it should in respect of the Tetra issue to date.

Letter from Paul Bingham (21 May 2004)

THE public health department is keenly aware of concerns held both on the Island and the mainland in respect to Terrestrial Trunked Radio (Tetra) masts and is working on a report for the IW Council.

The article highlighting 'unexpected results' by John Ackroyd – that signal strength varies with topography and not just with distance from the transmitter (CP, 30-04-04) is an issue that has already been documented in various reports from the National Radiological Protection Board, including its report on Tetra Vol 12 No 2 2001 and the report Vol 14 No 2 22003 – available at www.nrpb.org

The independent expert group on mobile phones (Stewart Report) concluded: "*The balance of evidence indicates that there is no general risk to the health of people living near to base stations on the basis that exposures are expected to be small fractions of guidelines. However, there can be indirect adverse effects on their well-being in some cases.*"

Demonstrating that Tetra has affected the well-being of residents in Ryde would not be proof that low intensity radio-frequency waves have a direct physical health effect. The public health report for the council will set out to clarify the nature of Tetra base station transmissions, research that has been conducted since the Stewart Report and the findings and recommendations of the regulatory bodies of other countries.

Response to points made at the March meeting of the Health & Safety Committee on behalf of the Ryde Tetra Action Group

Why was a health and safety enquiry not carried out before Tetra masts were erected?

Tetra masts have been installed on the Island and should comply with NRPB and international guidelines. It is unclear what is meant by a "health and safety enquiry" but an independent review entitled 'Mobile Phones and Health' that included national consultation was undertaken and published by the Stewart Committee in 2000.

The Tetra mast on the Commodore Cinema in Ryde had been erected without proper consultation, flouting planning law and being economical with the truth.

The Ombudsman has concluded that the Local Authority complied with planning law in approving installation of a Tetra mast on the cinema.

Dr Clark was not an independent witness as he worked for the National Radiological Protection Board, which was partly funded by the Government.

The NRPB is an independent statutory body with its own Board, rather than being part of central government. The core funding for the NRPB comes from government (Department of Health). The NRPB also undertakes funded research and provide services. They get no direct funding from the mobile phone industry. When the NRPB formulates guidance, it draws on the expertise of academics and, if necessary, forms a committee, e.g. Advisory Group on Non-ionising Radiation. The Stewart Committee was a one-off advisory committee to the NRPB. It is difficult to see how greater independence and impartiality could be achieved. Some of the Stewart Committee recommendations, particularly with regard to planning, have not been adopted by the government.

Normal human brainwaves modulate at a frequency of between 16Hz and 18Hz. Tetra microwaves are carried on a pulsing frequency of 17.6Hz and the Action Group believed this would therefore interfere with normal human brain functions.

The suggestion that the human brain operates using signals that are modulated in a way similar to radio frequency transmissions is incorrect and misleading. The brain consists of millions of nerve cells that function individually using electrical potentials to process information. The net effect of all this electrical activity can be recorded on the scalp as an electroencephalogram (EEG). Under various circumstances, such as changes in alertness or attention, different frequency bands predominate (see Table 1). The differences reflect the different processes involved in information processing. Beta waves consist of low amplitude waves of between about 13Hz to 40Hz and are characteristic of a highly aroused, alert person (although the other bands will still be present in the EEG). Here much information is being processed, whereas the Alpha pattern is more characteristic of a relaxed person, sitting quietly (especially if their eyes are shut).

Table 1: EEG frequency ranges

Delta	< 4Hz
Theta	4Hz to 7.9Hz
Alpha	8Hz to 12.9Hz
Beta	13Hz up to about 40Hz

The assertion that the microwaves from Tetra base stations are carried at a pulsing frequency of 17.6Hz is incorrect. Only Tetra handsets and repeater stations pulse at this frequency, assuming the standard definition for pulsing, which is that the signal goes to zero.

It is suggested that the belief that the very weak fields from Tetra base stations could significantly interfere with normal human brain function is unreasonable. In particular, the suggestion is not supported by the available scientific evidence.

Tetra was developed as a weapon, designed to cause biological damage and consequent ill health.

To be considered in any detail this assertion needs to be backed up with some documented evidence. NRPB are unaware of the existence of any documented proof of harm.

Police forces did not want to use the system, but were overruled by the Home Office.

The Tetra system was selected by PITO (Police Information Technology Organisation) that has representation from the Association of Chief Police Officers (ACPO), Home Office and Association of Police Authorities (APA). The position of the Police Federation is attached.

There were three key ways in which Tetra damaged people's health: it decreased the production of melatonin, increased calcium efflux and tetra emissions breached the blood brain barrier. These were a direct result of the pulsing frequency.

The effect of electromagnetic fields on melatonin production has been studied and NRPB has reviewed the topic in its recent document 'Review of the Scientific Evidence for Limiting Exposure to Electromagnetic Fields (0-300GHz)' (Doc NRPB 15(3) 2004). Evidence for a specific effect of radio frequencies on melatonin production is contradictory and further research has been recommended. The other topics of calcium efflux and possible effects on the blood brain barrier were reviewed in detail by NRPB's Advisory Group in NRPB Doc 14(2) 2003. Their view was that there isn't clear evidence that these mechanisms take place in whole organisms. Again, further research has been recommended.

The Ryde mast is in a densely populated area of mostly low cost housing, and is not far from Greenmount and Dover Park primary schools and several nursery and pre-school facilities, old people's homes and Ryde library.

The Stewart Committee made recommendations about the siting of base stations near schools (paras 6.63 to 6.68). The ICNIRP Compliance Notice for the Ryde mast identifies the beam of greatest intensity at 200° (North = 0°), reaching the ground approximately 105 metres away. This does not fall on any part of school grounds or buildings and therefore conforms with the precautionary approach recommended by Stewart.

The Council had apparently already asked Airwave to take readings at the school sites but the Action Group had heard nothing officially.

The Council has requested that OfCom take measurements at 'sensitive' sites around the Ryde mast to ensure compliance with ICNIRP guidelines. OfCom will also be requested to confirm the beam of greatest intensity.

Due to the large number of requests that OfCom receive for similar work, the measurements will not be taken until later in the year, although the Council continues to push for an earlier date.

Monitoring should be carried out by an independent organisation.

The NRPB has the expertise to undertake measurements and is independent of central government. OfCom could do the measurements as well. There are also several companies that can carry out surveys. To date the accuracy of NRPB and OfCom measurements in the vicinity of masts has been accepted.

It was the Council's duty to reverse the decision made by officers and remove the Tetra mast from the Commodore Cinema.

The Ombudsman has concluded that the Council have acted properly.

Email response from Paul Bingham to an Isle of Wight resident

I am sorry to learn about the tragic death of Neil Dring.

As a junior doctor I worked for a surgeon who specialised in cancer of the oesophagus/upper part of the stomach and while the majority of patients were older, we did have younger cases. Along with other cancer sufferers, many questioned "Why me?"

Although for many cancers risk factors have been identified, why an individual develops a particular cancer and not other people with an identical risk profile is generally unknown and health staff agonise with patients over this (an exception is some cancers that run in families where cancer genes have been identified). Many times I have been told, "My grandparents smoked into their old age and it did them no harm" but clearly this does not prove that smoking is not a cause of lung cancer.

Recently, a community in Northern Ireland became concerned about cases of cancer that they felt were clustered around a telecommunications mast and feelings became so strong that the mast was subject to criminal damage. A subsequent detailed study¹ has shown that the incidence of cancer around the mast is not raised but is comparable to other areas.

Highlighting two cases of oesophageal cancer in one police force (I understand that the Health & Safety Adviser for the constabulary said "the other officer was of senior rank and rarely used Tetra") and to suggest that because there are no other risk factors, the cancer has been caused by Tetra, is poor science.

Extensive studies undertaken by researchers in many countries have failed to show a link between radio frequency electromagnetic emissions and cancer and the Home Office is funding a large study of the health of police officers that should determine any increased risk of oesophageal (or other) cancer with Tetra.

I do not understand why you feel that NRPB statistics are flawed when their reviews are conducted of the whole body of available evidence, including from those who are opposed to Tetra and masts.

I would suggest that the "voice of reason" is a balanced consideration of the evidence.

¹ Investigation of cancer incidence in the vicinity of Cranborne telecommunications mast by D Catney & A Gain, Northern Ireland Cancer Registry, May 2004

Dear Dr. Bingham,

I forward this tragic story to you in the sincere hope that you will have the courage to speak out against this untested technology whilst you have the opportunity to do so. The statistics speak for themselves and clearly there are no other risk factors involved with these two young officers. We have protested long and hard to have the Ryde mast removed from our densely populated town centre. What happens? We have NRPB statistics thrown back in our faces - we all understand how flawed those are. What evidence do you need? Do we wait for our own police officers in Hampshire to fall terminally ill before raising the alarm? All it takes for bad things to happen is for good men to sit back and do nothing. The veil of silence will be lifted some time...but how many people will be sacrificed first? This is not about saving face...it's about saving lives. Please support the voice of reason.

Isle of Wight resident

INTERNET ATTACHMENT

Neil Dring was an exemplary police officer, the sort that every force and community would wish for. He was very popular with his colleagues and admired and respected by the people of the City of Leicester whom he served. He in turn loved his work and the camaraderie of the force that he was proud to be part of. Neil was an active sportsman and triathlete, and kept himself very fit. He didn't smoke, nor was he a drinker, and up until nine or ten months ago his health was excellent. He was a great Dad to his little girl and was looking forward to being a great Dad to his second child.



Around ten months ago, shortly before that child was born, Neil was diagnosed as having Oesophageal Cancer. He was able to enjoy only about one month with his newborn son before the illness began to make any sort of normal life a virtual impossibility for Neil and his family.

Neil had none of the preconditions for this sort of cancer, which is much more of a risk for smokers and those who drink regularly. He didn't suffer from the condition known as 'acid reflux', which can also increase one's susceptibility. Authoritative sources state that "Oesophageal cancer is most commonly found in those over 60, but can be contracted by adults between the ages of 45 and 75". Neil was 38 years old when he died.

One thing that Neil did suffer from for a while before being diagnosed with cancer – virtually ever since he had started using the 'Airwave' communications system, in fact – was severe headaches. He himself stated his conviction that both the headaches and the cancer that eventually killed him could be traced to the handset that he wore mounted on his chest every day – directly over where the cancer appeared - with an earpiece wired inside his helmet as he carried out his motorcycle patrol duties around Leicester.

Two hundred police officers attended Neil's funeral. His coffin was carried on a police motorcycle side-car, accompanied by an escort of police motorcycle outriders. Two officers delivered glowing tributes at the service, telling of "A great guy who commanded total respect and never let you down".

Neil's brother Ian was, along with the rest of the family, with Neil when he died. Ian told me: "If people want to know how it feels to have your brother die in your arms, fighting for 48 hours for every breath, then I'll tell them - he was a person of great courage and integrity - it was a death you wouldn't wish on your worst enemy."

Neil's nine-month old son is beginning to learn to speak quite clearly now. I'm told Neil and Ian always looked very similar, so when Ian walked into the room shortly after Neil's death the little lad called out "Dad!" There's no-one to answer that call now...

Heartfelt condolences go out to Neil's family from all who are committed to preventing such occurrences. By agreeing that his story may be told, his family have ensured that through his death many other officers may be saved from a similar fate.

The facts speak for themselves, they cannot be silenced.

That's by no means all. Another officer in the same force is suffering from exactly the same condition in the same place. This second case was diagnosed just weeks after Neil's illness was confirmed. This officer also was not that long turned 40 before he was diagnosed. Also a non-smoker, non-drinker, this officer, too, was a keen athlete and a good runner. He, too, is now in an advanced stage of an illness for which he had none of the preconditions. (It's worth noting that in Leicestershire, as in most parts of the country, police stations and offices have TETRA antennae on the roof of the building. All police officers and civilian staff are subject to the radiation from those antennae - as are members of the public in the vicinity.)

Cancer research specialists tell us that the likelihood of a person under 40 contracting oesophageal cancer is one in a hundred thousand. It's fair to assume that this cancer at such an early age would apply virtually exclusively to those whose oesophagus (throat) has regularly suffered from some form of irritation over a long period - smoking, drinking, acid reflux from the stomach. This would almost certainly be so in ninety-nine cases out of a hundred at such an exceptionally early age.

Good science always underplays, rather than overplaying, exceptional circumstances. So for the purpose of a brief analysis we'll assume that the odds of a person contracting this condition at a very early age without any of the preconditions are one-twentieth, rather than one hundredth, of that "one in a hundred thousand". This puts the probability of someone like Neil Dring or his colleague contracting this condition - by chance - at around one in two million.

The Leicestershire force consists of two thousand officers. Applying standard statistical techniques, the likelihood of two such officers in that force both being diagnosed with this condition within the same twelve months is, as it happens, also around one in two million. This means that one could watch a group the size of the Leicestershire police force for a million years and still only have a roughly evens chance of seeing such an occurrence - IF it happened by chance.

This is exactly the type of condition that was predicted by Barrie Trower in his Report on TETRA for the Police Federation two years ago. It also corresponds very closely with an incidence of cancer suffered by a Crime Scene Investigator with another force who was using TETRA - see report on the Home Page of www.starweave.com .

It's likely that colleagues of these two officers will be asking some pretty searching questions of their superiors, questions to which every serving police officer deserves answers. These could include the following:

- 1) In the light of the Stewart Report (IEGMP, 2000) recommending avoidance of amplitude modulation around 16 Hz, based on research evidence of biological effects at levels too low to cause heating, why are police officers throughout the UK being obliged to use equipment that pulses at 17.6 Hz? How can 'safety guidelines' based only on short-term heating effects be used to justify this policy?
- 2) Why did the Minister for Policing say in a Commons Debate on Tetra, July 10th 2003, with reference specifically to the above research studies: "The experiments were carried out in the 1970s and it has since been virtually impossible to replicate them" when the fact is that the Report listed four studies in the eighties and one in the nineties confirming this effect? Also the NRPB Report on TETRA (2001) listed just one further study - another successful replication in 1999, just five years ago, giving a two-to-one majority (8-4) of studies in those two reports showing this effect.
- 3) Why did the Home Office's own claimed 'attempt to replicate' this effect in the Government's own laboratories at DSTL Porton Down specifically not test at the power levels at which this effect was observed in previous research? Why also did this Home Office study not take into consideration two other factors which previous researchers had explicitly indicated as highly significant - i.e. background static magnetic field (possibly affected by e.g. steel lab benches) and temperature? How can the Home Office claim this was a true 'replication attempt'?
- 4) Given the clear need for the Police to have a secure, reliable and safe state-of-the-art communications system, why did the Home Office place an order for Airwave without consideration of other less potentially harmful systems, such as TETRAPOL?

Lastly, a word on that question 'Was this the first TETRA death?' - to me, it's not a question of whether this death was caused by a TETRA handset; for me that's not in doubt.

No, the question is whether this is in fact the first such death. It's well known that the authorities have pulled a veil of silence over this whole issue, making it very difficult for officers to speak out about it. By doing this they are, of course, simply encouraging everyone to assume the worst (and my bet is that everyone won't be far wrong). It's certainly not beyond the bounds of possibility that there have been other deaths elsewhere that have been 'hushed up'.

One thing that is absolutely certain: as long as this system continues, there will be more.

Grahame Blackwell

Basingstoke & Deane Borough Council: Leaflet ‘*Planning and Telecommunications*’

Basingstoke and Deane Borough Council’s approach

Basingstoke and Deane Borough Council is the local planning authority responsible for making planning decisions on telecommunications (telecoms) equipment in the Borough.

We are keen to encourage a joint working approach to telecoms development with everyone concerned. They would be involved in a process that ultimately raises the level of consensus about the type, and location, of telecoms equipment. The five main operators and various local action groups have worked with us. Together we have developed an approach that ensures the maximum amount of information about the possible location of telecoms equipment is made public, and debated as soon as is practicable (see section below on consultation arrangements and contact details). The operators have made a commitment to provide local planning authorities with annual rollout plans for each area. These indicate where new installations are required. This has enabled the joint production of an overview plan, showing all the potential areas of search from the five main operators in Basingstoke and Deane.

The overview plan and this leaflet represent our commitment to a joint solution to telecoms in the Borough. It will show the areas of search, and give background information on how we and the public can influence telecommunications within our Borough.

What is telecoms equipment?

Radio base stations transmit and receive radio signals to and from mobile phones. Each base station comprises radio equipment that is housed in a cabinet and antennas (which can be mounted either on freestanding structures or on existing buildings and structures). The structures used to support the antennas vary in size and design, depending on such factors as the amount of equipment they need to support, their required height, and setting. The antennas often need to be at a minimum height, hence their location on rooftops or masts (e.g. lattice tower masts). Some smaller masts have been designed to be less intrusive (for example, resembling lamp-posts, telegraph poles and trees).

Need and demand – an overview

The rapid growth in mobile communications has resulted in at least 43 million users of mobile phones in the UK. Customer demand has necessitated upgrading the technology, with operators having to continually expand their networks to accommodate services and improve quality.

Five UK operators also now have licences to provide a ‘Third Generation’ (3G) service that will allow enhanced services for mobile phone users, such as higher quality Internet access. This means more sites are needed in the Borough. Under the terms of their licences, the operators must provide a network covering 80% of the population by 2007.

The area of coverage of the base stations varies, depending on a number of factors, one being the amount of mobile phone usage. More base stations are therefore needed where there is a high density of mobile phone users, such as in urban areas.

Government policy

Policy framework

The Government's policy framework for telecommunications development is set out within Planning Policy Guidance Note 8 (PPG8). PPG8 outlines the importance of good communications, both economically and socially. It sets out the Government's policy to facilitate the growth of new and existing telecommunications systems, whilst minimising the environmental impact of any installation.

Local Planning Authorities are, therefore, required to respond positively to proposals for telecommunications development, and not question the need for the equipment, in principle, or obstruct the competitiveness of operators. The benefits of an efficient telecommunications service are recognised within the Hampshire County Structure Plan, and our Local Plan. These support new development, provided the visual impact of the structures is minimised, and the character of the countryside preserved.

Environmental considerations

Mast and site sharing

Sharing of an existing mast usually requires it to be increased in height or structural capacity, which could increase its visibility. Therefore, the provision of two or more masts on the same site (co-location), utilising existing screening, may be less visually intrusive.

As far as possible, existing buildings and structures (such as electricity pylons) will be used for siting new antennas. The overview plan will enable us to work with the operators, to co-ordinate the siting of new development, and minimise the number of new sites in the Borough.

Siting and appearance

The impact of any installation on the environment will be minimised through sympathetic design, camouflage and appropriate screening. Alternative designs, materials, colouring and siting will be explored, to ensure that any development has the least visual impact.

The Government gives high priority to the protection of rural and urban areas covered by environmental or historical designations, such as Areas of Outstanding Natural Beauty, and listed buildings. The impact of telecommunications installations on these protected areas should, therefore, take into account advice provided in other planning policy guidance notes, to preserve their quality and character.

Health considerations

The Stewart Report

Following research by an independent group of experts into the possible health effects posed by mobile phones, and base stations, the Stewart Report concluded that:

“the balance of evidence indicates that there is no general risk to the health of people living near to base stations, on the basis that exposures are expected to be small fractions of the guidelines. However, there can be indirect adverse effects on their well-being in some cases”.

Gaps in scientific knowledge led the Stewart Report to recommend a precautionary approach to the use of mobile phone technologies. Any elements of the precautionary principle found in the Stewart Report have been taken into account in PPG8, and the Local Planning Authority is not supposed to adopt any further 'precautions'.

Government guidance

PPG8 sets out very clearly the Government's view on public health concerns about telecommunications masts, and the approach that local planning authorities should take in this respect:

"Health considerations and public concern can, in principle, be material considerations in determining applications for planning permission and prior approval. Whether such matters are material in a particular case is ultimately a matter for the courts. It is for the decision-maker (usually the local planning authority) to determine what weight to attach to such considerations in any particular case" (para 29).

"However, it is the Government's firm view that the planning system is not the place for determining health safeguards. It remains central Government's responsibility to decide what measures are necessary to protect public health. In the Government's view, if a proposed mobile phone base station meets the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for public exposure it should not be necessary for a local planning authority, in processing an application for planning permission or prior approval to consider further the health aspects and concerns about them" (para 98).

"All new mobile phone base stations are expected to meet the ICNIRP guidelines. However, all applicants should include with their applications, a statement that self-certifies to the effect that the mobile phone base station, when operational, will meet the guidelines...Where a mobile phone base station is added to an existing mast or site, the operator should confirm that the cumulative exposure will not exceed the ICNIRP guidelines"(para 99).

Types of applications

There are two types of applications determined by the Borough Council:

1. Prior Approval Applications

Certain telecommunications development does not require planning permission, being permitted under the Town and Country Planning (General Permitted Development) Order 1995 (as amended). For example, this includes masts less than 15m in height that are on the ground. However, this is conditional upon the operator making a prior approval application to the local planning authority. Such an application will allow the local planning authority to consider (strictly within 56 days) the siting and appearance only of the proposed development.

2. Full Planning Permission

Larger installations require an application for planning permission, and these will be determined in accordance with the development plan, unless material considerations (see section below) indicate otherwise. This includes masts within an Area of Outstanding Natural Beauty or a Conservation Area. The usual time frame for planning applications apply (eight week target). Planning

authorities should consider any technical constraints on the location and proposed development that may affect the operation or effectiveness of the equipment.

Consultation arrangements

Pre-application consultation

PPG8 advises that the operators should carry out pre-application discussions with the local authority, and other organisations with an interest in the proposed development. The submission to the Council of each operator's annual rollout plans for future developments, leads to the production of the overview plan. This means that any technical and environmental constraints, and alternative approaches, can be discussed at the earliest opportunity. The overview plan is available for viewing at the Civic Offices or via the link and the bottom of this section, and comments on this can be made to the operators (contact details below).

The onus is on the telecommunications operators to consult residential and amenity groups, prior to the submission of a planning application. The telecommunications operators have developed ten commitments to address community concerns, including, improved consultation with local residents about new developments. The amount and type of consultation will vary with each site, based on an evaluation system for assessing the sensitivity of any installation. This includes the proximity to residential properties and schools, and the impact on the environment. This is known as the 'traffic light ratings model'. A green rating suggests there are few concerns, whereas a red rating highlights that there are several. Further information on this can be obtained by contacting the Federation of the Electronics Industry or any of the operators (contact details below).

On receipt of an application

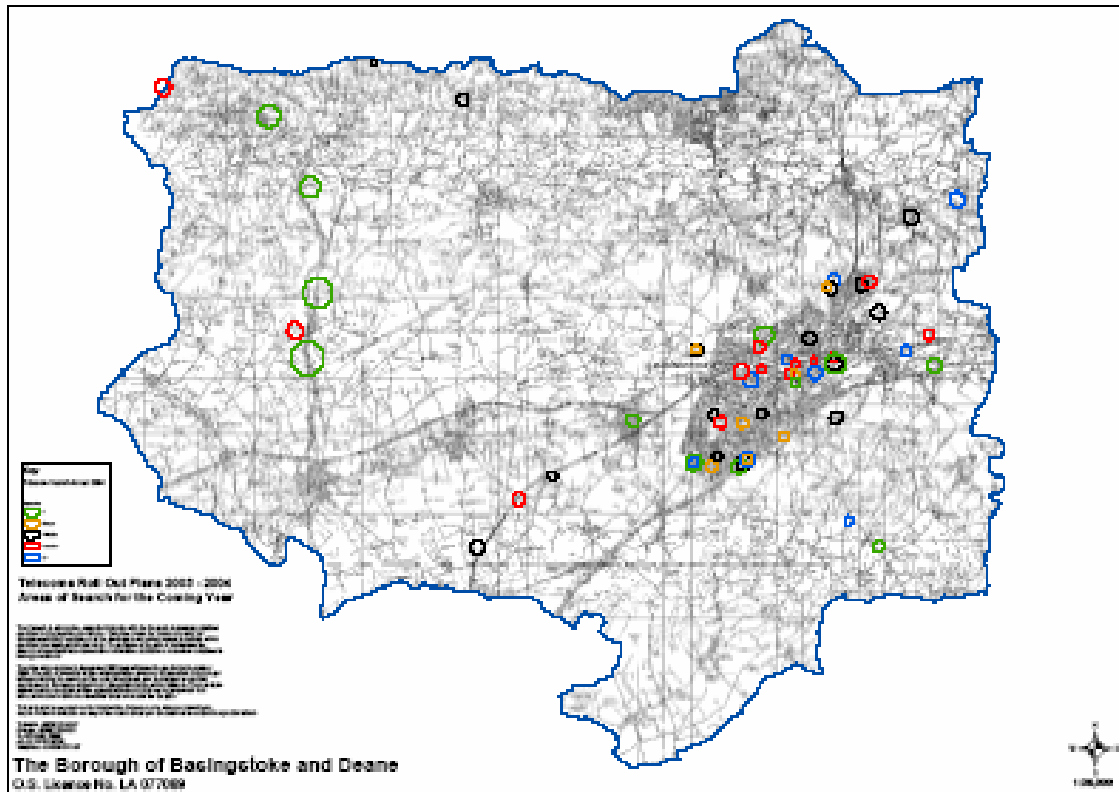
The Council is obliged to deal with any application that is submitted. We are keen to give local residents, and amenity groups, the opportunity to express their views on any proposal. When the Council receives an application for prior approval or full planning consent:

- the application will be listed in the weekly list of applications;
- we will consult the head of governors of any school and all neighbours within 100m of the application site;
- a site notice will be displayed;
- we will advertise in the local press, in certain circumstances, (for example, for sites over a certain size or affecting a public right of way).

These consultations exceed the statutory requirements.

Telecoms roll-out map 2003-04

The attached map shows the various telecoms operators' roll-out plans for the period 2003-04 as described to Basingstoke and Deane Borough Council in October 2003.



How does the Council determine an application?

The decision on any application will be in accordance with government policy and advice (outlined above), taking into account environmental and other considerations. Relevant material considerations may include the impact of any installation on highway safety, and the protection of trees. The impact of such development on property values is not a matter for the planning system.

Other information

The Human Rights Act (2000) is taken into account in all decisions made by the Local Planning Authority, in particular Article 8 of the European Convention of Human Rights (Right to Respect For Private and Family Life) and Article 1 of the 1st Protocol (Protection of Property).

Whilst these rights are recognised, they are not absolute and do have limitations. One limitation is that the Articles are subject (so far as is necessary in a democratic society) to the interest of (for example) the economic well-being of the country, and the public interest. The Local Planning Authority must, therefore, balance respect for the individual's family home and property with the economic well-being of the country and the public interest.

Further contact points

Planning and Transport, Basingstoke and Deane Borough Council: Queries relating to permitted development/planning applications:

Ailith Rutt, tel: 01256 845559, email a.rutt@basingstoke.gov.uk

Policy queries: Anne Pritchard, tel: 01256 845464, email a.pritchard@basingstoke.gov.uk

Department of Health leaflet on mobile phones and base stations: www.doh.gov.uk/mobilephones

Office of the Deputy Prime Minister, planning policy and information on mobile phone base stations: www.planning.odpm.gov.uk

Office of Communications (OFCOM) (which has taken over the role of the Radiocommunications Agency): www.ofcom.gov.uk

Mobile Operators Association (MOA) (formerly Federation of the Electronics Industry), Russell Square House, 10-12 Russell Square, London, WC1B 5EE, www.mobilemastinfo.com (includes details of the Traffic Light Ratings Model), tel: 020 7331 2015 or 2047, email: info@ukmoa.org.

The National Radiological Protection Board (NRPB), the Government's statutory advisors on radiological protection matters: www.nrpb.org.uk tel: 01235 831600

Federation of the Electronics Industry – www.fei.org.uk, tel: 0207 331 2000/2015/2029

Mast Action UK: PO Box 312, Hertfordshire, EN7 5ZE, www.mastaction.co.uk

Telecommunications Operators

3: Regional Planning & Environmental Controller, tel: 0845 604 3000

Airwave: John Scott, Pentland Ltd (Agents for Airwave), j.scott@pentlandltd.co.uk

O2: tel: 0113 3886780

Orange: tel: 0800 7835021

T-mobile: tel: 0870 321 6047, networkinfo@t-mobile.co.uk

Vodafone: tel: 01635 676457, environment.planning@vf.vodafone.co.uk

Mobile Operators Association: The Ten Commitments to Best Siting Practice

1. Develop, with other stakeholders, clear standards and procedures to deliver significantly improved consultation with local communities
2. Participate in obligatory pre-rollout and pre-application consultation with local planning authorities
3. Publish clear, transparent and accountable criteria and cross-industry agreement on site sharing, against which progress will be published regularly
4. Establish professional development workshops on technological developments within telecommunications for local authority officers and elected members
5. Deliver, with the Government, a database of information available to the public on radio base stations
6. Assess all radio base stations for international (ICNIRP) compliance for public exposure and produce a programme for ICNIRP compliance for all radio base stations as recommended by the Independent Expert Group on Mobile Phones
7. Provide, as part of planning applications for radio base stations, a certificate of compliance with ICNIRP public exposure guidelines
8. Provide specific staff resources to respond to complaints and enquiries about radio base stations, within ten working days
9. Begin financially supporting the Government's independent scientific research programme on mobile telecommunications health issues
10. Develop standard supporting documentation for all planning submissions whether full planning or prior approval

