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Target Audience:
FOD Inspectors
Specialist Group Inspectors (Radiation)

ELECTROMAGNETIC RADIATION IN THE TELECOMMUNICATIONS SECTOR

This SIM, which cancels and replaces version 1, advises inspectors of the current situation concerning radio frequency electromagnetic fields (EMFs) in the telecommunications sector. Revised information is given at **paras 15**, **17-18** and **Appendices 2** and **3**.

INTRODUCTION

1 This SIM should be read in conjunction with the general guidance on Non-ionising Electromagnetic Fields and Radiation in **OC 497/1**. This SIM is intended to complement that guidance by providing background information on the risks associated with radio frequency (RF) emissions at telecommunication masts and towers. The SIM itself gives a general overview of the issues and there are 3 appendices:

Appendix 1 - gives further information on the operation of mast mounted telecommunication systems and the associated risks;

Appendix 2 - gives a model letter which deals with some points commonly raised by members of the public about the siting of telecommunication masts near their homes (see also **para 24**); and

Appendix 3 - gives a list of contact names and addresses, when an enquiry needs to be referred onto another Government department or organisation.

LEGISLATION

2 There are no specific regulations covering EMFs. However the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999 (MHSW Regulations) apply, and place clear duties on employers to provide adequate information, instruction, training and supervision for their employees, to undertake risk assessments and in general terms to safeguard so far as is reasonably practicable the health and safety of employees and others.

GUIDELINES FOR RESTRICTION OF EXPOSURE

3 The National Radiological Protection Board (NRPB) have a statutory role of advising government on the health effects of radiation and publish guidelines on exposure

restrictions. These guidelines are designed to prevent acute harmful effects of exposure and apply both to workers and members of the public. They identify 2 sets of values:

- 'basic restrictions', which relate to induced current or energy absorption in the body; and

- 'investigation levels' which are corresponding derived values that represent the external electric and magnetic field strengths or incident power density, to which a person might be exposed.

4 In practice, only the latter fields can be measured on site. These are then compared with the investigation levels and if they are not exceeded then the basic restrictions cannot be exceeded. However if investigation levels are exceeded, it does not follow that the basic restrictions will be exceeded; further investigations would be needed to establish this.

5 The NRPB guidelines are based on the established effects of radiation. There are concerns about the possibility of long term exposure causing cancer. For further information see **para 14** and **OC 497/1**.

6 The International Commission for Non-Ionising Radiation Protection (ICNIRP) have also produced guidelines. For occupational exposure these do not differ significantly from NRPB guidelines. For public exposures they are approximately one fifth of those recommended by NRPB. As noted in the Stewart report (see **para 14**), the reason for this approach was the possibility that some members of the general public might be particularly sensitive to RF radiation, but no detailed scientific evidence to justify this additional safety factor was provided.

ENFORCEMENT RESPONSIBILITIES

7 HSE generally has the enforcement responsibility at telecommunication and broadcasting masts for the legislation described in **para 2**. In evaluating compliance HSE should seek to ensure that NRPB guidelines (paras 3-5 above) are complied with. There is a lack of scientific support for lower guidelines and HSE's legal advice is that HSE cannot enforce levels lower than those of the NRPB. However see **paras 14-19** for information on how ICNIRP guidelines might be used in Great Britain.

8 Enforcing NRPB guidelines may itself not always be straightforward. Specialist support is likely to be necessary. In cases of doubt inspectors may wish to focus on duties under MHSW Regulations, including risk assessment and the implementation of measures identified by those risk assessments.

HEALTH AND SAFETY HAZARDS AT TELECOMMUNICATION MASTS

9 At typical telecommunication frequencies, absorption of RF energy leads to heating of body tissue or may lead to unearthed conducting bodies becoming charged. The heating effect is most pronounced, and most hazardous, when the wavelength tends to correspond with the physical dimensions of body structures. Touching large, unearthed conducting structures exposed to EMFs may lead to RF shocks or burns.

10 On telecommunication masts, the sources of the EMF hazard are transmitting antennae; there is no EMF hazard at receivers. However a wide variety of antenna types exist so it is difficult to determine whether an antenna is a transmitter or a receiver or both and whether it is transmitting at any particular time.

11 Levels of absorption of RF energy are dependent on the transmission frequency and the field strength. Field strength is dependent on distance from the source. For further information see **Appendix 1 paras 8 -12**.

PRECAUTIONS

12 Duty holders will need to take account of the potential problems arising from multi-user masts; a company may own a mast but other companies may rent space on it, so that the mast could have 20 or more microwave dishes and antennae on it. Systems of work should take into account the need for good communications and cooperation between the different operators, particularly when maintenance work has to be carried out. For further advice see **Appendix 1**.

13 Members of the public (MoP) are frequently concerned at their exposure from nearby mobile phone base stations. **Antennae are invariably placed at height and consequently, at locations around the installation where the public have access, field strengths can be expected to be below and usually well below the guidelines**. This includes where there is a series of arrays or antennae on a mast (see also **Appendix 1, para 8**). Standard precautions should include warning notices being displayed at perimeter fences and any dangerous parts should be made inaccessible to members of the public. Where concerns remain, despite such precautions, see paras 14-18 and **OC 497/1**.

REPORT OF THE INDEPENDENT EXPERT GROUP ON MOBILE PHONES
(THE 'STEWART' REPORT)

14 Despite the guidelines produced by the NRPB, there has been continued voicing of concerns of ill health from people living near mobile phone base stations and similar transmission sites. In 1999, to meet those concerns, the Minister for Health commissioned the NRPB to set up an Independent Expert Group on Mobile Phones (IEGMP), under the chairmanship of Sir William Stewart, to examine the possible effects of mobile phone technology. In May 2000 it published its report, concluding that there is no general risk to the health of people living near to base stations. This was based on:

- the balance of evidence showing that exposures below NRPB and ICNIRP guidelines do not cause adverse health effects to the general population; and
- exposures from these sites can be expected to be small fractions of the guidelines.

15 Nonetheless it also:

- stated that the siting of base stations in residential areas can cause considerable distress. It made a number of recommendations for changes to the planning system;
- recommended that, as a precautionary approach, ICNIRP guidelines for public exposure should be adopted for use in the UK. It did not foresee the need to incorporate the ICNIRP guidelines into statute.

16 The Government responded that it would meet the latter recommendation by implementing the 1999 EU recommendation on public exposure to EMF, which incorporates the ICNIRP guidelines with some allowance for the practicalities for implementation. It is not intended that health and safety legislation or enforcement should be used to implement the recommendation.

17 Masts of 15 metres and above require planning permission. In England and Wales smaller masts are subject to a system of prior approval. The Government has now proposed that in England the system of prior approval has longer deadlines and a greater

fee, so that local consultation can be on a par with planning permission. Separate consultation has been undertaken both in Scotland and Wales, which includes the possibility of full planning permission for all masts. Because proposals are still being developed, for up to date information visit the relevant websites (see **Appendix 3**) or contact the Engineering and Utilities Sector, Nottingham

18 In a letter to all English LAs in June 2000 DETR Minister, Nick Raynsford MP, stated that 'health considerations and public concern can in principle be material considerations in determining applications for planning permission and prior approval'. However he also stated that it was the view that 'if a proposed development meets the ICNIRP guidelines ..... it should not be necessary for a planning authority, in processing an application, to consider the health effects further'. More comprehensive advice for LAs is being prepared by DETR.

19 DETR stress that HSE retains HSW Act enforcement responsibilities if there are direct health effects from exposure to RF radiation from these masts (the limit of HSE's ability to enforce is given in **para 7**). However the advice to planning authorities may mean that referrals from LAs to HSE, which had been increasing, will now reduce, especially given that as far as the Engineering and Utilities Sector is aware, all new masts should be capable of observing ICNIRP guidelines, and that the industry has stated that that will be the case.

20 A further recommendation of the report was that there should be a programme of independent auditing of sites. It has been agreed that the Radiocommunications Agency (RA), an executive agency of DTI, will commence such a programme and will begin with an audit of base stations sited at schools. A programme of auditing other sites is as yet unclear.

OTHER GOVERNMENT DEPARTMENTS RESPONSIBILITIES

21 This SIM has focused on risks from telecommunications structures. Potential risks to the public from electricity power lines are dealt with by the Department of Trade and Industry (DTI) Engineering Inspectorate (see **OC 482/5**).

22 There are now a small number of telecommunication transmitters being fitted to electricity pylons. Because the radiation from the telecommunication transmitters and the fields generated by the power lines will be in very different parts of the spectrum, the effects will not be additive or cumulative. Nonetheless members of the public may enquire about the total exposure from the tower and associated power lines. DTI have agreed informally to deal with such enquiries that they receive, although some enquiries may have to be referred onto HSE. When HSE receives enquiries about electricity pylons which include telecommunications systems, inspectors should deal with the telecommunications aspect, but because induced electric fields below power lines are likely to be much closer to NRPB guidelines, that aspect should be referred to DTI[1].

23 The Department of Health is the lead Government Department on public health issues, and their remit includes oversight of NRPB and leading the cross Government response to the Stewart Report. Together with the Scottish Executive, the National Assembly for Wales and the Northern Ireland Executive, they have published 2 leaflets for MoP, '*Mobile phones and Health'* and '*Mobile phone Base stations and Health',* which have been issued to inspectors and to SF 559. Limited stocks should be available in HSE offices for sending to enquirers, otherwise the leaflets are available on the Department of Health website. Further guidance should also be available from NRPB.

ACTION BY INSPECTORS

24 Inspectors may be approached by LAs about planning applications for the erection of transmitters. Inspectors should refer the authority to NRPB guidance, to the findings of the Independent Expert Group on Mobile Phones, and to DETR advice. In line with DETR advice (see **para 18**) they should suggest that the authority seek confirmation from the operator that the installation will comply with NRPB and ICNIRP guidelines. They may also wish to point out that in the light of the IEGMP's conclusion that there is no general risk to health below guideline levels, HSE would not have grounds to take action where NRPB guidelines are complied with. Inspectors should not question the suitability of the application or comment on the need for the service which the proposed development is to provide.

25 Inspectors are advised to use the guidelines of the NRPB and the notes in **Appendix 1** if they are reviewing employers' risk assessments. However, because mobile phone base station masts will be designed, built and operated to specific criteria and incorporate standardised precautions, whereby exposure of members of the public will be very low, generic assessments are likely to be acceptable for normal operation.

26 Inspectors should not ascend towers in the normal course of their duties, as they do not have the training for ascent of taller towers, and most parts of shorter towers should be visible from the ground. If ascent does appear essential, the circumstances should first be discussed with line management and divisional specialist groups (SG).

27 If a member of the public requests that a survey of radiation levels is undertaken at a base station, inspectors are advised to refer them to the site operator or the Radiocommunications Agency (see **para 20**). Alternatively the NRPB or an independent company may be able to undertake a survey for a fee. HSE is not equipped to undertake routine surveys, nor would it normally be an efficient use of resources given that exposure levels around a mast can be expected to be very low. If inspectors believe it appropriate for HSE to be involved in measurements, then they should contact their SG. One option may be for the site operator to provide their assessment or undertake a survey either in HSE's presence or which we later assess.

28 While it is hoped that inspectors will find the content of **Appendix 2** useful, inspectors are asked to tailor their letters to deal with the particular enquiry. Many enquiries may well contain little or no evidence of high exposures and there will be no reason to suppose that a risk assessment has not been carried out by the operator(s). However this SIM is not meant to preclude further investigation or action by the inspector where appropriate.

29 For enforcement advice on the main radiation risks arising from masts, see **Appendix 1 paras 18-19**.

ENQUIRIES

30 Within FOD, the Engineering and Utilities Sector has lead responsibility for radiation in the utilities industry. Broadcasting towers are now run by companies distinct from the companies that make the programmes (see **Appendix 1 para 3**) and are classified to SIC code 64200. Thus these together with other telecommunication masts come under the remit of the Engineering and Utilities Sector and Utilities Operational Groups. Enquiries about this SIM should be directed to the Sector at the Nottingham Office.

31 Other radiation issues are dealt with within FOD by relevant sectors or, where it is a cross-cutting issue, by Health Unit, including use of mobile phones at work (see **OC 497/2**).

32 Requests for technical assistance and advice should in the first instance be referred to the local SG.

33 HD B5 generally take the lead on liaison with other government departments on non-ionising electromagnetic radiation. TD Physical Agents Unit in close cooperation with HD B5 take the lead on liaison with other departments on relevant technical matters.

34 However in the majority of cases, referrals of MoPs to other Government departments or organisations may simply be a matter of providing the MoP with a name and address, and **Appendix 3** is provided for this purpose.

CANCELLATION OF INSTRUCTIONS

35 SIM 3/2001/02 version 1 - **cancel** and **destroy**.

36 Date first issued: 12 March 2001

1	DTI Engineering Inspectorate, I Victoria Street, London. SW1H 0ET Telephone 020 72155000.

APPENDIX 1

OPERATION OF MAST MOUNTED
BROADCASTING AND TELECOMMUNICATION SYSTEMS

RADIO AND TELEVISION STATIONS

1 The principal risks in radio stations operating below 30MHz, radio and television stations operating above 30MHz and in radio communications systems are set out below.

Radio stations operating below 30 MHz

2 A radio station consists of three fundamental elements, a transmitter, an aerial system and a feeder arrangement connecting the transmitter to the aerials.

(1) **Transmitters** Radio broadcasting on low, medium and high frequencies requires a high voltage power supply. Many high powered transmitters operate at 11 kV and rigorous systems of work, including isolation where appropriate, are necessary to prevent harmful exposure from the transmitters.

(2) **Feeders** The electromagnetic field strengths in the immediate vicinity of these conductors are very high and in addition to the risk of contact burns (or shock), exposures may result in high specific absorption rates. RF burns tend to be deep and take a long time to heal. Approach may occasionally be necessary and both the circumstances and the precautions require careful consideration.

(3) **Aerials** The systems for domestic broadcasting are comparatively simple and once set they do not require changing so they require little maintenance.

Short wave broadcasting directed overseas requires a more complicated installation which presents increased risks. Transmitters and aerials are used in a wide variety of combinations and in close proximity to each other. High voltages can be induced in non-

powered aerials by other aerials in the same array, and thus switching off the aerial on which maintenance work is to be done may not always be enough to ensure safety.

Radio and television stations operating at frequencies above 30MHz

3 HF and UHF installations for both radio and television broadcasting tend to be on high ground, sometimes in isolated locations and have the aerials mounted on very high masts. These masts are usually owned by Crown Castle International or National Transcommunications Ltd (NTL) but frequently have additional aerials owned by other organisations, eg BT and the Home Office. Contractors will frequently be used. Therefore persons employed by a number of different organisations will have access to difficult and potentially dangerous places of work.

SYSTEMS OF WORK AT RADIO AND TELEVISION STATIONS

4 A safe system of work needs to be adopted and strictly observed when work is done on the aerials themselves. The authorisation procedure for allowing people to work in potentially hazardous areas, principally on transmitters, feeders and aerials or masts should ensure that aerials and feeders are isolated before work on them commences taking into account radiation from adjacent aerials and any induced voltages. Work on transmitters and in transmitter enclosure rooms requires efficient electrical isolation and recognition of any remaining dangerous radio frequency voltages, eg electrical interlocks or captive key systems.

5 For maintenance and repair work on transmitters, feeders, aerials and similar equipment, the tally system using personal or group labels to indicate when individuals or parties are working on parts of the plant is sometimes employed.

6 Work sometimes has to be done at night and temperatures can be extremely low even during the day particularly when the wind chill factor is considered.

RADIO COMMUNICATION SYSTEMS

7 The most common telecommunication installations are **mobile telephone base stations**. These usually operate at frequencies at or above 450 MHz. Radio Communication Systems are also found in the emergency services and among taxi operators and security firms etc and usually operate at frequencies around 30-50 MHz.

8 Although of much less power than the radio and television transmitters, localised areas of intense radiation can be encountered close to the transmitters. Maintenance and repair work present the most significant risk and precautions similar to those outlined for broadcasting stations should be adopted. The intensity of radiation falls off rapidly with distance and levels exceeding NRPB investigation levels are unlikely to be encountered in the path of the beam more than 2 m, if not less, from the transmitter under normal operating conditions. The exact distance at which the field strengths fall to below NRPB investigation levels will depend on the individual transmitter.

9 There are other types of RF transmitters used by British Telecom where power densities can exceed guidelines near to the transmission point. These include Tropospheric Scatter Equipment, Satellite Earth Stations and HF radio transmissions for the Aeronautical and Maritime Services.

10 With Tropospheric Scatter equipment power densities in excess of the guidelines can exist several feet from the launch unit, and will certainly exist between the launch unit and

the reflector.

11 Satellite Earth Station antennae produce power densities in excess of the guidelines within the illuminated area of the dish, ie between the feed, the sub-reflector and the reflecting surface of the dish.

12 HF radio transmissions for the Aeronautical and Maritime Services normally use open wire antennae, suspended on high masts. These can produce isolated hot spots in excess of the guidelines at distances up to 100 metres from the antenna, depending on the transmission mode (power, frequency, number of channels used, etc). Despite these distances, hot spots should not occur in places accessible to the public.

RF MEASURING DEVICES

13 Those working in proximity to RF sources should make use of RF measuring devices, which may measure the electric or magnetic fields. They will vary in size according to their specification, but many can be carried in a pocket and are intended to give a warning when investigation levels are approached. While these personal monitors are a very important precaution, inspectors should be aware that measuring fields in close proximity to a source (in the ‘near’ field) is problematic, and they cannot be fully relied upon to protect the worker. In particular, if they are worn on the front of the body they may not react to a source behind the wearer. Proper systems of work remain essential.

INDUSTRY CODES

14 Inspectors may encounter some variation in the signs used at transmitter sites to indicate the hazard. One of the recommendations of the Independent Expert Group on Mobile Phones was for the design of a logo to be taken forward by the British Standards Institute.

15 As much of the work at radio and television stations involves climbing tall masts and carrying out quite intricate work at considerable heights above the ground, it is important to monitor the competence, experience and individual fitness of ‘riggers’ (the term given to personnel who carry out this work). A number of companies have initiated a passport type document for riggers. Companies may vary in the format of the document they use - and some may use alternative arrangements altogether - but a typical ‘passport’ will include a photograph, ‘records of competency’, in which the individual's ability has been verified and signed for by an experienced supervisor, and a record of medical examinations.

OTHER RISKS

Ignition and detonation risk

16 Large, unearthed conducting structures can act as aerials if they are in the path of RF emissions. A spark may be created if the structure is touched by an earthed person or object. The most acute risk of fire or explosion may occur when, for example, gas, chemical or petrochemical plants are sited near long, medium and short wave broadcast transmitters, military establishments and navigational channels regularly used by merchant and naval vessels.

Ionising radiation

17 X-rays may be produced coincidentally in some types of apparatus used in radio

transmitters including mercury vapour rectifiers, klystrons and travelling wave tubes. The user should check levels of X-radiation around transmitter equipment in consultation with the manufacturer, and where necessary provide adequate shielding.

ENFORCEMENT MANAGEMENT MODEL

Risks to employees

18 With regard to EMFs, the main risk is from working in proximity to, or on, an installation which has not been isolated and where there is a risk of working at levels above NRPB guidelines. When they occur, RF burns can be deep-seated and slow to heal with long-lasting scarring. However exact levels of exposure will be hard to predict, as will be the injuries. Perhaps most likely is a possible risk of significant injury, heating effects leading to heat stress and some tissue damage. This compares to a benchmark of: a remote risk of significant injury for multi-use masts (where it may be impracticable to isolate all systems); or nil risk on a single use mast. If RF measuring devices are not used, then the user will have a lack of warning that NRPB guidelines are being, or are about to be, exceeded. This may lead to longer exposures and a possible risk of more serious, irreversible tissue and organ damage ie a possible risk of serious injury.

Risks to the public

19 Risks to the public at places where they should have legitimate access should be nil and the main risks arise if inadequate precautions mean members of the public have ready access to a transmitter (please remember that not all antennae are transmitters - see SIM para 10). If that is the case, then that may mean a possible risk of significant injury or a remote risk of serious injury (see descriptions of injuries in ‘Risks to employees’). There is considerable dependence on circumstances, including how long people will stand in close proximity to a transmitter. Unless working on the equipment, people will not generally stay in proximity to equipment for any length of time, but if in doubt generally choose the risk leading to greater action, ie remote risk of serious injury. If the lack of precaution means members of the public, including children, may also be climbing masts then overall this will be a possible risk of serious personal injury.

20 Standards are best regarded as established.

FURTHER INFORMATION

1 BS 3192:1979, Safety Requirements for Radio (including Television) Transmitting Equipment.

2 BS 6656, British Standard Guide to Prevention of Inadvertent Ignition of Flammable Atmospheres by Radio Frequency Radiation.

3 BS 6657, British Standard Guide to Prevention of Inadvertent Initiation of Electro-Explosive Devices by Radio Frequency Radiation

4 Department Of Health leaflets ‘Mobile phones and Health’ and ‘Mobile phone base stations’.

5 NRPB information sheet entitled ‘Safety of mobile phones’.

6 The NRPB have published another document in their *At-a-Glance* series entitled ‘Radio Waves’ which is also available, free.

See SIM **para 23** and **Appendix 3** for sources of leaflets.

APPENDIX 2
(paras 1 and 28)

A MODEL FOR REPLIES TO COMPLAINTS/ENQUIRIES REGARDING MOBILE PHONE BASE STATIONS

Thank you for your letter of ..... about the siting of a telecommunications mast near your home in .....

(NRPB Guidelines)

The National Radiological Protection Board (NRPB) has the statutory function of advising government on the possible adverse health effects of radiation, including the non-ionising electromagnetic radiation associated with telecommunications systems. HSE would expect telecommunication and broadcasting companies to comply with the guidelines that NRPB issues; current guidance can be found in "Board Statement on Restrictions on Human Exposure to Static and Time Varying Electromagnetic Fields and Radiation", *Docs. of the NRPB*, Vol **4,** No. 5, (1993), published by HMSO.

(Planning applications)

Planning applications for the erection of transmitter masts are decided upon by the local authority, taking into account environmental and amenity issues. In doing so, there is no requirement (except where planning permission comes within a specified consultation distance from a major hazard site, eg specified chemical installation) for HSE to be consulted. HSE would only expect to become involved if there were evidence to suggest that the owners/installers of the mast were disregarding NRPB guidelines.

(Health effects)

The NRPB guidelines are designed to prevent the known acute health effects (heating of the body) which can occur within a few metres of base station antennae, and compliance is normally achieved by placing the antennae at a height and ensuring that members of the public do not have access to the mast.

There are often voiced public concerns about other harmful effects from exposure to radio waves. In May 2000, an Independent Expert Group on Mobile Phones, set up at the request of the Minister for Health, issued its report. This concluded that on the balance of all the available evidence, exposures below current guidelines do not cause adverse health effects to the general population. It also concluded that therefore there is no general risk to the health of people living near to base stations, because exposures from these sites are expected to be small fractions of the guidelines.

Nonetheless the report noted that siting of base stations in residential areas can cause considerable concern and distress and it recommended changes to the planning system. DETR has consulted on such changes and details can be accessed at their website (www.planning.detr.gov.uk) or from DETR at Eland House, Bressenden Place, London SW1E 5DU[1]. Further information on the Independent Expert Group on Mobile Phones Report should be available from the Dept. of Health, 80 London Road, Elephant and Castle, London SE1 6LW. (tel. 020 7972 5126) or at www.iegmp.org.uk

(If complainant seeks Auditing/measurement emissions from site[2] and there is no evidence of non-compliance with NRPB guidelines)

For advice or measurement on levels of emissions from any particular site, you are advised to contact the site owner. Alternatively you may wish to contact the Radiocommunications Agency who are undertaking a programme of auditing base stations. For further details you are advised to contact: Mr. G Worsley, DTI, 151 Buckingham Palace Road, London, SW1W 9SS. (tel. 020 7215 1820) or access the web site: www.radio.gov.uk

*(Leaflet-see **SIM para 23**)*
Please find enclosed *"Mobile phone Base Stations and Health".*

(Further enquiries on health effects)
Further enquiries about NRPB guidelines and health effects can be directed to NRPB at Chilton, Didcot, Oxon, OX11 0RQ.

(Alternative Conclusions)
If there is information that telecommunication and broadcasting companies are not observing NRPB guidelines, then that is a matter on which HSE could act. However, presently on the basis on what you have described, this would not seem to be the case, and we are unable to take any action in relation to the siting of the telecommunications mast in question. I am sorry if that disappoints you, but I hope that I have been able satisfactorily to explain the health effects from radio waves and our own responsibilities in dealing with them.

OR

Given the information you have provided and your concerns, I will follow this up and will write to you again after further enquiries.

1	See **para 17** and **Appendix 3** for Wales and Scotland.
2	Compare with paragraph on Conclusions. Referring onto others assumes that we would not wish to be involved because of a lack of evidence of failure to comply with NRPB levels. If we were to investigate we ourselves may still wish to involve the company, SG or check with the Radiocommunications Agency on a possible audit.

APPENDIX 3
(paras 1, 17 and 34)

CONTACT NAMES AND ADDRESSES

Planning issues, including the siting of base stations

Refer to the local planning authority in relation to queries about specific developments. For broader policy issues:

Department of Environment, Transport and Regions.

Contact: Mr Iain Clark, DETR, Eland House, Bressenden Place, London SW1E 5DU. (tel 020 7944 3947). **www.planning.detr.gov.uk**

Scottish Executive.

Contact: Mr Joe Kirk, Scottish Executive, DD:PL 2H34 Victoria Quay, Edinburgh EH6 6QQ (tel 0131 2447067). **www.scotland.gov.uk/planning**

National Assembly for Wales.

Contact: Mr Peter Roberts, Planning Division P2A, National Assembly for Wales, Cathays Park, Cardiff. CF10 3NQ. **www.wales.gov.uk**

Public health issues; guidance to the public on telecommunications; the Stewart Report*

Department of Health.
Contact: Mr G Hooker, Dept. of Health, 80 London Road, Elephant and Castle, London SE1 6LW. (tel. 020 7972 5126)
Website (**www.open.gov.uk/health**)
*Mobile phones and health. Independent Expert Group on Mobile Phones. ISBN 0-85951-450-1. (**www.iegmp.org.uk**)
Mobile phones and health. Summary and Recommendations. ISBN 0-85951-451-X.

Transmitter masts and base stations on or near to school premises

Department for Education and Employment.
Contact: Mr K Odell (tel 020 7925 5892).
DfEE, Sanctuary Buildings, Great Smith Street, London, SW1P 3BT.
DfEE advice for local education authorities and schools is on the DfEE Website at **www.dfee.gov.uk/a-z/mobilephones.html**

Auditing of emissions from base stations

For the programme of audit of base stations being undertaken by the Radiocommunications Agency.
Department of Trade and Industry.
Contact: Mr G Worsley, DTI, 151 Buckingham Palace Road, London, SW1W 9SS. (tel 020 7215 1820).
(an alternative for enquiries on the current programme of school audits is the RA Enquiry Point on 0207211 0211; e-mail enquires: StewartAudit@ra.gsi.gov.uk)

RA website: **www.radio.gov.uk.**

Telecommunication research programme

Contact:

Either: Dept of Health, 80 London Road, Elephant and Castle, London SE1 6LW. (tel 020 7972 6513).

Or: Mr G Worsley, Department of Trade and Industry, 151 Buckingham Palace Road, London, SW1W 9SS. (tel 020 7215 1820).

Health effects of exposure to radio frequency radiation, exposure guidelines and standards

National Radiological Protection Board, Chilton, Didcot, Oxon, OX11 0RQ. (tel 01235 831600). Website (**www.nrpb.org.uk**).

Information leaflets on radio frequency radiation and telecommunications

National Radiological Protection Board, NRPB Information Office, Chilton, Didcot, Oxon, OX11 0RQ. (tel 01235 822742; email: information@nrpb.org.uk). Website (**www.nrpb.org.uk**).