



SCOTTISH EXECUTIVE

Development Department

National Planning Policy Guideline

NPPG 19

RADIO TELECOMMUNICATIONS

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Planning Series:

- **National Planning Policy Guidelines (NPPGs)** provide statements of Scottish Executive policy on nationally important land use and other planning matters, supported where appropriate by a locational framework.
- **Circulars** which also provide statements of Scottish Executive policy, contain guidance on policy implementation through legislative or procedural change.
- **Planning Advice Notes (PANs)** provide advice on good practice and other relevant information.

Statements of Scottish Executive policy contained in NPPGs and Circulars may, so far as relevant, be material considerations to be taken into account in development plan preparation and development control.

This NPPG summarises the Scottish Ministers' understanding of the effect of the relevant primary and secondary legislation although the summaries do not carry statutory authority in themselves and legal advice should always be taken in case of doubt.

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Introduction

1. The Scottish Executive's planning policy for radio telecommunications is set out in this National Planning Policy Guideline (NPPG). It addresses how masts¹, antennas and associated equipment can be introduced in ways which are more sensitive to the environment than has sometimes been the case. It also sets out how health issues and matters of public concern should be considered. The purpose of the policy is to ensure that the infrastructure can be developed in a way which continues to provide Scotland with world class telecommunications² services, while at the same time minimising the environmental impact of new or replacement equipment.

2. The Scottish Executive's planning policy is to enable the telecommunications industry to expand and diversify, but this must be done sensitively. It can be achieved without unnecessarily limiting the industry's operational or expansion plans which are essential to the global competitiveness of Scottish business. However, while additional economic and social benefits can only be achieved if the infrastructure is developed, including the networks of radio base stations, the industry has to devote greater attention to the siting and design of equipment.

3. The Guideline has been prepared as part of the Executive's response to the inquiry by the Transport and the Environment Committee of the Scottish Parliament into planning procedures for telecommunications development³; and the report prepared by the Independent Expert Group on Mobile Phones (IEGMP) which considered the health effects from the use of mobile phones, base stations and transmitters⁴.

4. The guidance is concerned primarily with:

- further growth of existing mobile telephone systems (including second generation or 2G);
- the introduction of the third generation of mobile telecommunications (known as 3G); and
- Fixed Radio Access telecommunication services.

¹ "Mast" - see Glossary.

² This NPPG deals with **radio** telecommunications and should be read accordingly unless the context specifically indicates otherwise.

³ A copy of the report can be found at www.scottish.parliament.uk.

⁴ A copy of the report 'Mobile Phones and Health' can be found at www.iegmp.org.uk.

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It is also relevant, as appropriate, to other radio communications development, for example emergency services, pager services, private networks and broadcasting.

5. The accompanying Planning Advice Note (PAN 62) 'Radio Telecommunications' contains background information on the telecommunications industry, illustrations of the infrastructure and equipment, and provides advice on siting and design. The Town and County Planning (General Permitted Development) (Scotland) Order 1992 (the GPDO) as amended⁵ and accompanying Circular SEDD Circular 5/2001 set out the statutory position for development which does not need a specific grant of planning permission.

The key technical terms are described in the glossary.

⁵ The Town and County Planning (General Permitted Development) (Scotland) Amendment (No. 2) Order 2001, Scottish Statutory Instrument 2001 No. 266.

Planning System and Legislation

6. The key aims of the planning system are to promote development in suitable locations, minimise any adverse effects and prevent inappropriate development. The wider purposes of planning are set out in NPPG1. It is important that the planning system anticipates change and makes positive provision for development. Planning must also operate in the long-term public interest while respecting the rights of individuals.

7. The significant increase in radio telecommunications development in the 1990's led to concern about its impact on the environment. This often came from those who found equipment erected on land or buildings near their homes, but also arose from the introduction of prominent new structures in rural environments and the multiplicity of equipment on some roofs.

8. The amendments to the GPDO in 2001 mean that a specific grant of planning permission is required for radio telecommunications development that would result, in summary, in any of the following:

- A new ground based mast;
- Alteration or replacement of a mast which increases its height by 2m or 1m horizontally;
- On buildings over 15 metres in height:
 - equipment housing over 3m in height or 30 cubic metres in volume;
 - any antennas over 2.8 metres in height or 1.3m measured horizontally;
 - any antennas taken together with any supporting apparatus more than 4 metres in height;
 - more than 8 antennas;
- On buildings not over 15 metres in height:
 - equipment housing over 3m in height or 30 cubic metres in volume;
 - any antennas over 0.9m in any direction;
 - more than 4 antennas other than "small antennas";
 - more than 8 "small antennas" (see Glossary);
- On dwellings:
 - any apparatus other than "small antennas";
 - more than 2 "small antennas".
- Development on a category 'A' Listed Building or a Scheduled Monument, including their setting;

- Development in areas of natural and built heritage of national or European importance⁶.

9. The GPDO specifies some radio telecommunications development which can be undertaken without a specific grant of planning permission. This provision is in recognition of the operators' obligations to fulfil the requirements of their licences. Exceptionally however, Scottish Ministers have decided that these developments must nevertheless be subject to a set of environmental measures which take public concerns into account. For all cases of permitted development involving antennas or equipment housing the operators must therefore:

- notify the planning authority (who may consider the proposal and comment);
- provide a detailed description of the proposed development and its location;
- in the case of antennas, submit the declaration required by the GPDO relating to compliance with the International Commission on Non-Ionising Radiation Protection public exposure guidelines (see paragraph 20);
- remove any apparatus or structure when it is no longer required;
- restore the land, building or structure to its previous or other agreed condition;

and additionally, for equipment on buildings,

- site it to minimise the effect on the external appearance of the building so far as is practicable.

10. The Executive is pleased to note that the Federation of Electronics Industries, representing the main mobile operators, has also made a series of important commitments designed to improve their practices and procedures. These apply to permitted development and planning applications as appropriate (see Annex to PAN 62 and www.fei.org.uk).

⁶ National Scenic Area, National Park, Natural Heritage Area, Conservation Area, Historic Garden or Designed Landscape (as identified in Historic Scotland's Inventory of Historic Gardens and Designed Landscapes), Site of Special Scientific Interest or European Site (Special Areas of Conservation and Special Protection Areas (for a full definition see GPDO Article 2 (1) (c) (ii)).

Policy and Legislative Context

Government Telecommunications Policy

11. The aim of telecommunications policy is to ensure that business and domestic consumers have a wide range and choice and there is equitable access to the latest technologies. These technologies will enable business growth by opening up new markets and new opportunities for diverse and innovative services. The Government aims to make the UK the best place to do business electronically by 2002. The policy of successive UK Governments has been to extend the social and economic benefits of modern telecommunications technology throughout the country. Further development of the telecommunications infrastructure is therefore essential, particularly to support widespread and affordable access to broadband services.

Regulation of Telecommunications

12. Telecommunications legislation and regulation is reserved to the UK Parliament and administered by the Department of Trade and Industry (DTI). Legislative responsibility for town and country planning is devolved to the Scottish Parliament.

13. Operators of public telecommunication systems require a licence, issued by the Secretary of State for Trade and Industry under the Telecommunications Act 1984. To facilitate the installation of their systems certain licensees are granted "Code Powers", the terms of which are set out in Schedule 2 of the 1984 Act (see Annex to PAN 62). Code Powers confer on operators, rights to install and maintain apparatus. Licensees assigned the Code are commonly known as Telecommunications Code System Operators.

14. The Office of Telecommunications (OFTEL), a non-ministerial Government Department, regulates the industry under the 1984 Act by monitoring, enforcing and modifying the conditions attached to telecommunications licences. It is these conditions that specify operators' rights and obligations. The Scottish Advisory Committee on Telecommunications (SACOT) is appointed by the Secretary of State for Trade and Industry to ensure that OFTEL and the companies that supply telephone networks, communication services and equipment take account of the needs of all consumers in Scotland. To reflect the growing convergence between the broadcasting, telecommunications and information technology sectors, the UK Government proposes to create a new unified regulator for the electronic communications sector (The Office of

Communications – OFCOM) to replace OFTEL, the Independent Television Commission (ITC), the Broadcasting Standards Commission, the Radiocommunications Agency and the Radio Authority.

15. Operators may require a licence issued under the Wireless Telegraphy Act (1949 and 1998) to use the radio spectrum. The Radiocommunications Agency (RA), an Executive Agency of DTI, is responsible for the allocation, maintenance and supervision of the radio spectrum under the Wireless Telegraphy Act. The licensing process includes, where necessary, putting transmitting sites through a radio site clearance procedure. This addresses issues such as radio interference, aviation safety and the need to minimise the number and optimise the use of sites, masts and other apparatus by sharing facilities. Radio site clearance, which is usually sought after planning permission is granted, is not a pre-requisite of planning permission.

Other Interests

The National Radiological Protection Board

16. The National Radiological Protection Board (NRPB) is the Government's advisor on radiological protection. It was established under the Radiological Protection Act 1970 to provide authoritative information and advice in relation to protection from radiation hazards, to undertake research and to provide technical services to those concerned with radiation hazards. The NRPB's advice on mobile phone emissions is available at www.nrpb.org.uk.

Health and Safety Executive

17. Under the Health and Safety at Work Act 1974, the Health and Safety Executive seeks to ensure that risks to people's health and safety from work activities and the way work is carried out are properly controlled (e.g. during the installation and maintenance of antennas).

Building Control

18. Free standing telecommunications masts, cabling and equipment housings continue not to be subject to building regulations. Where however masts or equipment are attached to or placed on a building, a building warrant may be required to cover any alterations to the building (for example if the roof structure has to be strengthened, or access is provided). Where telecommunications equipment is housed in a building containing other accommodation a warrant may also be required. In either case the building control authority should be consulted.

Health Issues

19. In 1999, the Government asked the National Radiological Protection Board to set up the Independent Expert Group on Mobile Phones (IEGMP). This Group considered concerns about health effects from the use of mobile phones, base stations and transmitters. They conducted a rigorous and comprehensive assessment of existing research and gathered a wide range of views. The Group published its report, 'Mobile Phones and Health'⁷ (The Stewart Report) on 11 May 2000.

20. In respect of base stations, the 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 ICNIRP (International Commission on Non-Ionising Radiation Protection) public exposure guidelines. However, there can be indirect adverse effects on their well-being in some cases”. It also said that the possibility of harm could not be ruled out with confidence and that the gaps in knowledge were sufficient to justify a precautionary approach.

21. The IEGMP recommended a precautionary approach, comprising a series of specific measures, to the use of mobile phone technologies until there is more detailed and scientifically robust information on any health effects. The Government's response⁸ to the IEGMP report includes acceptance of the recommended precautionary approach. Responses to specific recommendations include:

- Emissions from mobile phone base stations should meet the ICNIRP guidelines for public exposure as expressed in the limits set in the EU Council recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields. Most base stations already meet the guidelines, which are more stringent than the former guidelines, and all new base stations will do so.
- Forming a national database giving details of all base stations and their emissions. Such a database will be established and maintained by the Radiocommunications Agency and it is intended that information relevant to each site including emission levels, will be made available to the public and planning authorities.

⁷ The IEGMP Report is available at www.iegmp.org.uk/ (or by post from the Secretariat – see Glossary for address).

⁸ The Government's response is available at www.doh.gov.uk/mobile.htm.

- Having an independent audit of emissions undertaken to give the public confidence that base stations do not exceed the ICNIRP public exposure guidelines. The surveys are being undertaken by the Radiocommunications Agency (see paragraph 15). The initial focus of the audit is schools with base stations on their premises. The surveys commenced in December 2000 and 29 have been completed, with all measurements so far showing emissions to be hundreds of times below the ICNIRP guidelines. The results are published on the RA website at www.radio.gov.uk. The RA intend to complete about 100 surveys by the end of 2001. A report will then be produced identifying any emerging trends and decisions will be taken on how to progress the audit.
- Taking forward the Stewart Report's recommendation regarding the zone where the concentration of radio waves is higher than elsewhere⁹. The IEGMP recommended that the concentration should not fall on any part of a school's grounds or buildings without agreement from the school and parents; and that, if for an existing base station, agreement could not be obtained, the antennas may have to be re-adjusted accordingly. Network operators have agreed to provide schools with information on the pattern of radio wave emissions on request.
- Having clear exclusion zones around all base station antennas to protect the public from exposure to radio frequency radiation above the ICNIRP public exposure guidelines. (These exclusion zones relate to an area directly in front of and at the height of the antennas). The mobile operators are developing and will be deploying common signage for sites where there is access to the zones.
- Commissioning a comprehensive programme of further research on health matters. The first invitation to submit research projects for funding under the Government's Mobile Telecommunications and Health Research Programme was issued in February 2001. For more information see www.dti.gov.uk/ost/link/mobhealth.htm
- Issuing a leaflet to provide information for the consumer which will inform choices about their own and their families' use of the new mobile phone technologies. (Two leaflets, Mobile Phone Base Stations and Health & Mobile Phones and Health have been issued by Scottish Executive/Department of Health.)

⁹ This concept was referred to by the IEGMP as "the beam of greatest intensity".

22. Making sure that these steps are taken is the responsibility of the Government, the telecommunications regulating authorities and the mobile industry. They are not matters for the planning system but are included here for information. The wider health issues played a prominent part in the consideration of controls over telecommunications development and particularly in the recommendations of the reports of the Transport and the Environment Committee and the IEGMP. The role of the planning system regarding emissions and health is dealt with in paragraphs 53 – 55 below.

Background Information

Growth of Radio Telecommunications

23. From the mid 1980s there has been increasingly rapid growth in the use of radio telecommunications, especially mobile phones, with over 40 million subscribers in the UK in 2001, and fixed radio access systems. Radio technology, including broadcasting and other radio services will continue to revolutionise the way people and businesses communicate. The UK is one of the world leaders in mobile telecommunications, with different network operators offering innovative and competitive services. A wide range of development is likely but the majority of planning applications are expected to arise from the mobile and public fixed access services.

24. **Mobile services** with portable radio handsets are provided by the cellular telephone operators and via a number of private networks. The major operators have all extended their network coverage and capacity quite significantly in the last few years and will continue to do so in accordance with their licence obligations and on the basis of demand. Competition between the companies will increase because 5 new licences have been granted to build and operate third generation (3G) mobile networks which will be capable of supporting multimedia applications. The five new licence holders, consisting of the 4 existing 2G providers and one other, are expected to begin commercial 3G services in 2002. They are required by their licences to cover 80% of the UK population by 2007.

25. Until the 1980s the allocation of radio bandwidth constrained the use of radio communication, but cellular radio technology re-uses bandwidth within discrete cells and gives virtually unlimited potential for growth. As the volume of calls increases the cells are split into smaller ones, and the transmitters for each cell can therefore be of correspondingly lower power. Base stations range from multiple antennas on masts and high buildings to small unobtrusive fixtures on the faces of, or inside, buildings.

26. **Fixed radio access services (FRA)** use radio to connect the equipment in a building with the network. They are an alternative to conventional wired or optical fibre systems. In 2001 there was only one operator in Scotland but more were expected to enter the market.

27. The infrastructure and technology for FRA services are significantly different to those for mobile services. The antennas are usually "small antennas" (as defined in the GPDO), 2 of which are permitted on any dwelling house below the highest part of the roof, or 8 on any other building, under permitted development rights. A specific grant of planning permission is however needed for base stations involving a ground based mast. Due to the relatively low power of these systems, base stations have to be within about 1km of the consumer with a direct line of sight and hence there is less flexibility in the choice of location than for mobile services.

More information on these and other systems is included in the associated PAN.

Economic Importance

28. The telecommunications industry is passing through a period of rapid expansion, technical innovation and intense competition. These are world wide trends and Scotland must be part of these changes in order to maintain and improve our position in an increasingly competitive global market. Scotland must therefore have an advanced telecommunications infrastructure of the highest quality. This can help to reduce the disadvantages of a peripheral location in Europe. The benefits can be particularly important for remote rural areas and island communities.

29. The Scottish Executive has identified the use of information technology as one way of improving the efficiency and productivity of the Scottish economy. New technology allows companies to download and transmit substantially greater amounts of data, reduce their costs, serve more customers and gain access to new markets. This is producing many new businesses and more are expected.

Social and Educational Benefits

30. The use of radio communications, ranging from emergency services to paging, offers a number of valuable benefits. It can help to promote social justice by providing opportunities to participate in work, learning and society generally. While they can be used inappropriately or in unsuitable places, mobile phones enable people to keep in touch easily. They have an important role in enhancing personal safety, for example by facilitating contact with the emergency services, who themselves rely on mobile communications. Text messaging which is akin to e-mail is expected to grow significantly. Both mobile and fixed radio services can be of particular benefit in some rural areas where

landlines may not be practical or commercially viable.

31. The educational, shopping, entertainment and information services available through the internet are already popular. The introduction of the new 3G mobile technology and broadband radio systems will allow far more data to be transmitted quickly and a new range of services to be provided to mobile and fixed link customers.

Wider Environmental Issues

32. Telecommunications can benefit the environment by reducing the need to travel and hence reducing vehicle emissions and congestion, for example by enabling 'home working'. On the other hand, mobile telecommunications enable people to remain in contact whilst away from home or work premises and hence can lead to more flexible travel arrangements. They have also enabled the development of driver information systems which may lead to better use of roads and reduced congestion.

Implications for Planning

33. The expected growth in demand for the use of telecommunications, and changes to the nature of the industry, will have implications for the planning system. Growth is likely to be driven by a range of factors including the increased capacity of digital broadband technology including 3G, fixed wireless and satellite systems, growth in demand for communications of all kinds, especially mobile, non-voice or data services, more diverse services, continued growth of the internet and greater competition. Change will also be driven by convergence, the integration of telecommunications, broadcasting and information technology sectors, and between fixed and mobile networks.

34. The following trends will have specific and general implications for planning:

- continuing roll-out of 2G networks - more base stations;
- an increasing number of smaller, lower powered antennas;
- many more base stations for 3G networks (potentially 3-4 times as many as 2G, possibly 80,000 in the UK);

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- 3G antennas sharing 2G sites and structures;
- many more fixed-link base stations and "small antennas"; and
- increasing use of other radio systems including more base stations for the Airwave Project, the new Public Safety Radio Communications Service (police, fire,etc).

It is envisaged that the greatest concentrations of new development will be in urban areas and along the main transport corridors. Given the potential for advances in technology it is also envisaged that the design and appearance of equipment will improve over time.

Policy Guidelines

General Principles

35. The Scottish Executive's policy is to enable the telecommunications industry to expand so that Scotland is served by the best radio telecommunications infrastructure. The expansion must however be undertaken in a manner that keeps the environmental impact of telecommunications equipment to a minimum. The **aim** is that the equipment should become an accepted and unobtrusive feature of urban and rural areas. This is in the long term interests of the industry, the economy and the people of Scotland.

36. It is important that planning authorities, telecommunications operators and their agents establish an informed working relationship. Operators should always be consulted during the preparation of local plans and supplementary guidance. Planning authorities should identify a member of staff as the first point of contact and for liaison generally, become familiar with the types of equipment being used and keep in touch with trends. They should also be aware of the obligations that licences place on the operators in terms of meeting reasonable customer demands and service provision, plus the technical requirements and constraints under which the industry operates. Planning authorities should not however question whether the service to be provided is needed nor seek to prevent competition between operators, but must determine applications on planning grounds.

37. The operators should ensure that the staff or agents working on their behalf are fully conversant with planning legislation, policy and procedures in Scotland, as well as being familiar with the site for which planning permission is being sought. Design professionals should be engaged as appropriate. Network roll-out plans and specific sites should be discussed with planning authorities, taking into account issues of commercial confidentiality.

38. Generally, for appropriate new buildings and structures (particularly larger developments), planning authorities should encourage, through their policies and pre-application discussions, designs which would allow new telecommunications infrastructure to be installed within or on them with minimum environmental impact.

Siting and Design

39. The siting and design of telecommunications development are the key issues to be addressed through the planning system. More environmentally sensitive solutions can be achieved through greater use of smaller and less visually intrusive equipment with less conspicuous fittings. All the components of the proposed development should be considered together, and sited and designed to minimise visual impact. This should include the antennas (even if they will not all be in service initially), any supporting structure, equipment housing, cable runs, fencing, planting, landscaping, access, power supply and land lines. Operators should specify suitable environmental standards where electricity suppliers exercise their own permitted development rights. If and when infrastructure is being replaced the operator should seek to ensure that the new equipment is less visually intrusive. Advice on siting and design, covering the matters in the following paragraphs, is contained in PAN 62.

40. There can be a degree of public concern about the siting and design of mobile phone base stations. Sensitive siting and design can play a part in allaying public concerns. Conversely, bad siting and design can heighten concerns. Paragraph 61 therefore asks operators to provide with their applications evidence that consideration has been given to siting and design options, and this may be a material consideration (see paragraph 66). It is expected that operators will make all reasonable efforts to select sites which minimise public concerns.

The Series of Options

41. An approach to reaching an apt solution in site selection and base station design is to consider the series of options set out below. This is a checklist rather than a rigid sequence of steps.

Small Scale Equipment

42. The smallest suitable equipment should always be installed. Relatively small scale equipment, including the smallest antennas may be considered generally as "de minimis".

Concealing and Disguising

43. A range of design and camouflage techniques is available to help disguise or conceal masts, antennas, equipment housing and cable runs. There may also be opportunities for a mast and/or antenna to be a positive design feature.

Mast Sharing

44. Mast sharing by installing equipment on an existing mast, including those on buildings and other structures, is encouraged where it represents the best environmental solution. (The possibility of doing so has to be investigated by the main mobile operators under the provisions of their licences.) The additional equipment should be designed and positioned as sensitively as possible, though technical constraints may limit the possibilities. In some circumstances the shared use of an existing mast might require an increase in its height and visibility.

Site Sharing

45. In some instances a new base station adjacent to an existing one, be it a ground based mast or on a rooftop, might be preferable to mast sharing. Planning authorities should take account of the cumulative visual effects of equipment on rooftop sites, and on the wider roofscape, in assessing new proposals.

Installations on Existing Buildings and Other Structures

46. The placing and design of equipment should be sympathetic to the building's architectural form, location and setting.

Ground Based Masts

47. The last option in the series is a new ground based mast, though that does not mean it will not be the best solution in many situations. The siting and design of ground based masts must have regard to the landscape or townscape and make use of existing features to minimise any adverse visual effects.

Built-up Areas

48. The demand for radio telecommunications development is greatest in built-up areas, especially town and city centres, retail and business parks. The challenge is to introduce the equipment sensitively and imaginatively, taking the series of options fully into account. PAN 62 provides numerous examples. There may also be scope for improvement if and when equipment is replaced.

Rural Areas

49. In all rural areas telecommunications infrastructure has to be sited carefully. If it is located in a prominent position it can change the character of a landscape and detract from its quality, particularly if it breaks an important skyline. Cumulative impacts can also cause concern. Some special landscapes,

such as National Scenic Areas and the isolated coast, pose a challenge to the operators and planning authorities in finding an acceptable solution. Planning Authorities should however be alert to the economic and social implications of not having full coverage in an area. The approach to finding the optimum solution may include disguising the antennas, sharing a site or existing infrastructure, minimising the size of the mast, and only using a hill-top or skyline site as a last resort. In their consideration of possible sites, operators and their agents should refer to the Landscape Assessment reports published by Scottish Natural Heritage.

Nature Conservation

50. Concern has been expressed about the introduction of telecommunications equipment in sensitive natural environments. There has been some disturbance to wildlife and loss of habitat, notably peatland and woodland. The construction process can be disruptive, particularly the formation of access tracks and the provision of power supplies. The continuing presence of a base station can be problematic if maintenance disturbs wildlife. With careful site selection, design and construction, and effective co-operation between operators and planning authorities, an acceptable solution should almost always be possible. The whole development, not just the mast or the antennas, must however be considered together.

Historic Environment

51. Proposals affecting a listed building or its setting, or a building within a conservation area, must receive very careful consideration. There may be a need to obtain listed building consent for the proposed installation of telecommunications equipment in or on a listed building which, in the opinion of the planning authority, may affect the building's character. Ecclesiastical buildings in use are exempt from listed building control (but normal planning controls apply). A pilot scheme commenced in January 1999 to assess the effect of applying listed building control to works proposed to the exterior of churches in ecclesiastical use. A leaflet giving details of the scheme is available from Historic Scotland.

52. Where a proposal would have an effect on an area included in the Inventory of Gardens and Designed Landscapes it should not detract from the quality of the Inventory landscape. Similarly, telecommunications equipment should avoid having an impact on the site and setting of a scheduled monument and other significant archaeological site or landscape as they are particularly sensitive to new development. The prior written consent of Scottish Ministers

under the Ancient Monuments and Archaeological Areas Act 1979 (scheduled monument consent) will be required for any development which would affect a scheduled monument. The local authority archaeological service should be consulted about non-scheduled sites.

(Further information and guidance is contained in The Memorandum of Guidance on Listed Buildings and Conservation Areas 1998, published by Historic Scotland (pages 146 -148); The Inventory of Gardens and Designed Landscapes in Scotland 1988; NPPG18 – Planning and the Historic Environment; and NPPG5 – Archaeology and Planning.)

Emissions, Health and the Role of the Planning System

53. The planning system should not be used to secure objectives that are more properly achieved under other legislation. Emissions of radiofrequency (RF) radiation are controlled and regulated under the appropriate legislation by the DTI and the Radiocommunications Agency. The Health and Safety Executive also have responsibilities (see paragraph 17). With these mechanisms in place, together with the arrangements set out below, the Scottish Executive concludes that it is not necessary for planning authorities to treat RF emissions as a material consideration. The role of the planning system in addressing public concerns about the siting and design of mobile phone base stations is dealt with in paragraph 40.

54. To demonstrate to planning authorities that the known health effects have been properly addressed, applications for planning permission involving antennas must be accompanied by a declaration that the equipment and installation is designed to be in full compliance with the appropriate ICNIRP guidelines for public exposure to radiofrequency radiation¹⁰. The certification arrangements also apply to antennas installed under the relevant permitted development rights¹¹. Over and above this requirement, further reassurance may be taken from the fact that the RF power outputs from mobile phone base stations are set at the minimum levels commensurate with effective service provision and the technical conditions under which base stations operate, including their maximum power, are specified in the operator's Wireless Telegraphy licences¹². These technical requirements ensure that the risk of

¹⁰ The radiofrequency (RF) public exposure guidelines of the International Commission on Non-Ionising Radiation Protection (ICNIRP), as expressed in EU Council recommendation of 12 July 1999 (Reference: 1999/519/EC) on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).

¹¹ Class 67 of the General Permitted Development (Scotland) Order 1992 as amended.

¹² Source - The Radiocommunications Agency.

interference within the network and with other radio networks is minimised. Statutory powers to control outputs and ultimately to switch off radio transmitters are exercised on behalf of the Secretary of State for Trade and Industry by the RA. Hence there should be no need for planning authorities to consider power outputs. Additionally, independent audits of base station emissions are carried out by the RA as described at paragraph 21 above.

55. It is the responsibility of the Scottish Executive and the UK Government to decide what measures are required to protect public health. The Executive's approach and policy described above are a practical and proportionate response to this matter. Provided this guidance is followed it is unlikely that planning authorities could find justification for applying extended or alternative requirements either in development plans or development control. This approach and policy will also be applied in the determination of appeals.

Action Required

Structure Plans

56. Radio telecommunications development is unlikely to raise any strategic locational or land use issues which must be addressed in structure plans. If a Planning Authority wishes to take a different approach they should outline how it differs from this guidance and justify their approach.

Local Plans and Supplementary Guidance

57. Local plans and supplementary guidance must give a consistent basis for planning authority decisions and provide clear, positive guidance to the industry.

58. Local plans should:-

- specify development control criteria for radio telecommunications development, including siting and design matters, consistent with this NPPG;
- outline the types of locations, e.g. industrial or commercial areas, more suitable for sizeable pieces of equipment such as the larger ground based masts;
- identify the designated areas specified in the GPDO¹³ where there are no permitted development rights for radio telecommunications development, and set out policies to control the standard of development in these areas; and
- identify other areas, for example the isolated coast or green belt, where special care should be exercised.

¹³ National Scenic Area, National Park, Natural Heritage Area, Conservation Area, Historic Garden or Designed Landscape (as identified in Historic Scotland's Inventory of Historic Gardens and Designed Landscapes), Site of Special Scientific Interest or European Site (Special Areas of Conservation and Special Protection Areas) (for a full definition see GPDO Article 2 (1) (c) (ii)) or on a Category A listed building or a scheduled monument or within the setting of such building or monument.

59. If local plans do not adequately address radio telecommunications, supplementary guidance should be prepared quickly to provide an interim basis for efficient and consistent decisions on planning applications. In developing this guidance the views of the industry, local communities and other relevant interests should be sought. As a matter of good practice authorities should incorporate any non-statutory policies into their local plans as quickly as possible.

Development Control

60. This NPPG emphasises the importance of establishing good working relationships and trust between operators and planning authorities. Pre-application discussions on the overall nature of the operator's network intentions and subsequently on individual proposals should help identify those which could prove contentious or controversial. The feasibility of alternative solutions in terms of siting and design should be explored at this stage before an application for planning permission is prepared. To assist in pre-application discussions, and in addition to the national database of base stations mentioned in paragraph 21, planning authorities may find it helpful to build up a register of sites, masts, buildings and other structures, including those which have been previously considered but rejected. This will help guide operators to acceptable sites, including site sharing opportunities. Planning authorities should be aware that if suitable council owned property is not potentially available the optimum siting and design solutions may not be achievable.

61. There is a particular need for planning applications for radio telecommunications to be accompanied by supporting material which presents the proposal in its full context. This would include:

- a description of how the proposed equipment fits into the wider network (this may have to be provided in confidence);
- a consideration of the siting and design options which satisfy the operational requirements, and the reasons for the chosen solution;
- details of the design, including height, materials and all the components of the proposal (see paragraph 39);
- details of any proposed landscaping and screen planting;

- information on the method and timing of construction, particularly in sensitive rural areas;
- how the cumulative effects involving equipment already on site or nearby were considered; and
- further information in some circumstances on the visual impact e.g. a photomontage to show the proposed equipment in its wider setting. Very exceptionally a landscape or visual impact assessment may be needed.

62. Planning applications for all development, including radio telecommunications, are subject to procedures for neighbour notification. Consultation with the relevant regulatory agencies (NRPB, HSE etc), Environmental Health Departments and Health Boards is not required as a matter of course. As well as the statutory requirements for consulting Scottish Natural Heritage, and the Scottish Ministers through Historic Scotland, planning authorities may agree with them to refer additional types of applications in particular circumstances (for example where a mast site is just outside the boundary of a National Scenic Area but would significantly affect visual amenity). The requirement to consult the Civil Aviation Authority or the Ministry of Defence is set out in the Town and Country Planning (Aerodromes) (Scotland) Direction 1982.

63. Authorities may receive representations about the potential impact of proposed telecommunications development on property values. The planning system operates in the wider public interest. The material question is not whether a particular development would cause financial or other loss to owners and occupiers of property in the vicinity, but whether the proposal would have a detrimental effect on amenity and the locality generally.

64. The vast majority of properly prepared applications should be capable of being determined within 2 months. For applications concerning a link in a telecommunications network any delay in its determination may have implications for the national system as a whole. It is therefore in the national interest that no unnecessary delays occur. Applications must be dealt with expeditiously and to help ensure this:-

operators should:

- make early contact with the planning authority and have pre-application discussions;
- submit full and complete planning applications,

- accompanied by supporting material;
- show how they have considered the options and alternative sites;
- explain clearly the reasons for the chosen solution.

Planning authorities should:

- allocate radio telecommunications applications to selected staff (where possible) so that they can develop the specialist knowledge required for these cases;
- review their scheme of delegation so that applications which accord with policy are delegated; and
- recognise that representations on matters which are not material do not necessitate a Committee decision.

Determination of Applications

65. Where applicants demonstrate that they have given proper regard to siting and design issues, including the consideration of options, and have minimised any environmental effects, it is unlikely that refusal would be warranted.

66. Planning decisions must be made in accordance with the development plan unless material considerations indicate otherwise. Material considerations should relate to the development and use of land, and fairly and reasonably to the particular application. For radio telecommunications they may include:

- siting and design, including scale and colour;
- landscaping and screening;
- for replacement equipment, the degree of visual improvement;
- the options and alternatives considered;
- the requirements of the network and the technology;
- National Planning Policy Guidelines;
- legitimate public concerns about siting and design;
- the views of consultees; and
- effects on the natural and built heritage.

67. Exceptionally, and providing it can be fully justified by the particular circumstances, a condition restricting permitted development rights may be applied, for example in relation to the number of antennas or the size of radio equipment housing. Conditions should be attached in accordance with the policy and the specific tests set out in SODD Circular 4/1998 'The Use of Conditions in Planning Permission' and its addendum.

Article 4 Directions

68. In the areas of natural and built heritage specified in the GPDO there are virtually no permitted development rights for telecommunications development. In other areas, Article 4 Directions aimed at removing permitted development rights will not normally be approved. Where a planning authority considers the amenity of an area would be seriously threatened by permitted development and proposes an Article 4 Direction, there should be initial consultation with the industry and other interests. The justification for the Direction will have to be set out in detail.

Notification of Applications

69. Scottish Ministers have to be notified by planning authorities for a range of development proposals¹⁴, including some which may involve telecommunications infrastructure. Those most likely to be relevant include:

- development in which the planning authority has a financial interest (through receipt of a rent for example), an interest in the land or ownership of the land, if the proposal does not accord with the local plan or has been the subject of a substantial body of objections;
- development affecting a Site of Special Scientific Interest, a site proposed or designated as a Special Area of Conservation, an area proposed or classified under the Wild Birds Directive or a site designated as a wetland of international importance under the Ramsar Convention, where the planning authority have consulted SNH and do not propose to accept its advice regarding refusal or conditions;
- development affecting a National Scenic Area which is, inter alia, over 12 metres high or involves a vehicle track where the planning authority have consulted SNH and do not propose to accept its advice regarding refusal or conditions; and
- development affecting Scheduled Monuments and Category A Listed Buildings where the planning authority have consulted the Scottish Ministers through Historic Scotland and do not propose to accept their advice regarding refusal or conditions.

¹⁴ The Town and Country Planning (Notification of Applications) (National Scenic Areas) (Scotland) Direction 1987, and the Town and Country Planning (Notification of Applications) (Scotland) Direction 1997 as amended.

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A significant departure from a structure plan also has to be notified but it is very unlikely that any telecommunications development would fall into that category.

Conclusion

70. The Scottish Executive believes that the revolution in radio telecommunications will be beneficial for Scotland. The questions regarding emissions are being taken very seriously and addressed by the responsible bodies through the precautionary approach outlined in paragraphs 21 – 22. The planning system should seek to minimise the environmental effects of radio telecommunication development, respond properly to legitimate public concern and still enable the operators to install and extend their networks timeously. Siting and design which is sensitive to the built form and the natural environment is the standard expected of new development. Developers, operators, their agents and planning authorities must work together to meet these challenges.

Notes

71. NPPGs, PANs and a list of planning Circulars can be viewed on the Scottish Executive web site:
www.scotland.gov.uk/planning.

72. If you have an enquiry about the content of this guideline telephone 0131 244 7543. Further copies and a list of current NPPGs and planning Circulars can be obtained by telephoning 0131 244 7066. Planning Advice Notes can be obtained by telephoning 0131 244 7543.

73. Scottish Development Department Circular 25/1985 Telecommunications Development is cancelled.

74. The arrangements described in NPPG 15 'Rural Development' (paragraph 35) regarding telecommunications development have been superseded and it is therefore deleted.

75. A working group, which included representatives from the industry, local authorities, consultants, the professions, the Department of Trade & Industry, and the Department of Transport, Local Government and the Regions, provided invaluable assistance during the preparation of this guidance.

Glossary

Antenna – A passive electrical component which can transmit and receive radio waves.

Base Station – A fixed radio transmitter/receiver which electronically relays signals to and from handsets and other data terminals.

Bandwidth – the physical characteristic of a telecommunications system that indicates the speed at which information can be transferred. In analogue systems, it is measured in cycles per second (Hertz) and in digital systems in binary bits per second. (Bit/s).

Beam Of Greatest Radio Frequency Intensity – (referred to in this NPPG in terms of a concentration of radio waves). For an explanation please refer to the leaflet "Mobile Phone Base Stations and Health" Department of Health/Scottish Executive.

Broadband – a service or connection allowing a considerable amount of information to be conveyed, such as television pictures. Generally defined as a bandwidth greater than 2Mbits per second.

De minimis – This term covers minor works which, in relative terms, may not have a material effect on the external appearance of the building or structure on which they are installed. As a result they may not come within the legal definition of development and hence not require planning permission, though listed building consent may still be required.

Electromagnetic field – A form of non-ionising radiation which arises from a wide range of natural (e.g. earth's magnetic field) and man-made sources (e.g. domestic wiring, electrical appliances, power lines and radio transmitters).

Fixed Radio Access – A low power (100 milliwatts) radio system for connecting individual subscribers in buildings to a base station. See "Small antenna".

3G – Third Generation of mobile telephony technology which uses broadband radio to carry large amounts of data.

Ground Based Mast – a mast constructed on the ground either directly or on a plinth or other structure constructed for the purpose of supporting the mast.

ICNIRP – International Commission on Non-Ionising Radiation Protection. Responsible for co-ordinating knowledge of protection against the various non-ionising radiations. It works closely with organisations of the United Nations. Strong support is received from the Commission of the European Communities. Work encompasses environmental health criteria on different aspects of non-ionising radiation. Set up by the International Radiation Protection Association (www.icnirp.de/).

IEGMP – The Independent Expert Group on Mobile Phones. Their report, Mobile Phones and Health is available at www.iegmp.org.uk. It may be purchased (price £20 or £2 for the summary) from the IEGMP Secretariat, c/o Information Office, National Radiological Protection Board, Chilton, Didcot, OXON, OX11 0RQ.
Tel: 01235 822742, Fax: 01235 822746.

Mast – The GPDO defines a mast for the purposes of Class 67 as "a structure erected by or on behalf of a telecommunications code system operator for the support of one or more antennas including any mast, pole, tower or other similar structure." The policy in this NPPG also applies, as relevant, to other radio telecommunications masts.

Non-ionising radiation – radiation that does not produce ionisation in matter e.g. light, ultraviolet and radio. When these radiations pass through the tissues of the body they do not have sufficient energy to damage DNA directly. (source NRPB)

OFTEL – Office of Telecommunications. (The UK telecommunication watchdog.) A government department which acts as telecommunications regulator but is independent of ministerial control. It is headed by the Director General of Telecommunications, who is appointed by the Secretary of State for Trade and Industry.

Small Antenna – an antenna for use in connection with a telephone system operating on a fixed point to multi-point basis, of not more than 50 cm in any linear dimension with an area of not more than 1591 sq. cm.

Telecommunication Code System Operator – A person granted a licence under section 7 of the Telecommunications Act 1984 which applies the telecommunications code contained in Schedule 2 of the Act.

Transmitter – Electronic equipment which generates radio frequency electromagnetic energy and is connected to an antenna.

Annex - Organisations and Addresses

The Association of Consulting Engineers
Alliance House, 12 Caxton Street, London SW1H 0QL
Tel: 020 7222 6557 Website: www.acenet.co.uk

British Broadcasting Corporation
BBC Reception Advice, Television Centre,
Wood Lane, London W12 7RJ
Tel: 08700 100 123 Website: www.bbc.co.uk/reception

Department of Trade and Industry (DTI)
Enquiry Unit
1 Victoria Street
London SW1H 0ET
Tel: 020 7215 5000 Email: dti.enquiries@dti.gsi.gov.uk
Website: www.dti.gov.uk/cii

Independent Television Commission
ITC Engineering Information
Kings Worthy Court, Kings Worthy
Winchester SO23 7QA
Tel: 01962 848647 Website: www.itc.org.uk

The Institution of Electrical Engineers
Savoy Place, London, WC2R 0BL
Tel: 020 7240 1871 Email: postmaster@iee.org.uk
Website: www.iee.org.uk

The Radio Authority
Holbrook House, 14 Great Queen Street
Holborn, London WC2B 5DG
Tel: 020 7430 2724 Email: info@radioauthority.org.uk
Website: www.radioauthority.org.uk

Radiocommunications Agency
Wyndham House, 189 Marsh Wall
London E14 9SX
Tel: 020 7211 0502 or 0505 Email: library@ra.gsi.gov.uk
Website: www.radio.gov.uk

Radio Society of Great Britain
Lambda House, Cranborne Road, Potters Bar
Hertfordshire EN6 3JW
Tel: 0870 904 7373 Email: postmaster@rsgb.org.uk
Website: www.rsgb.org

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National Radiological Protection Board
Chilton, Didcot,
Oxon, OX11 0RQ
Tel: 01235 831600 E-mail nrpb@nrpb.org.uk
Website: www.nrpb.org.uk

Office of Telecommunications (OFTEL)
50 Ludgate Hill
London EC4M 7JJ
Tel: 020 7634 8700 Email: infocent.oftel@gtnet.gov.uk
Website: www.oftel.gov.uk

Scottish Advisory Committee on Telecommunications (SACOT)
2 Greenside Lane
Edinburgh EH1 3AH
Tel: 0131 244 5576 Email: sacot@acts.org.uk
Website: www.acts.org.uk/sacot