Comments:

BT welcomes the opportunity to comment on the Ofcom Consultation Document "Providing spectrum information", which we consider addresses the very sensitive subject of publishing information regarding radio links. In view of the implications of such an action, we believe that this should be undertaken with the utmost care, to ensure that malicious actions are not facilitated. It is essential that the release of information can be fully justified.

BT is somewhat surprised to see that Ofcom is interpreting the Environmental Information Regulations 2004 to include emissions from radio transmitters. Regulation 2 on "Interpretation" states that "environmental information" has the same meaning as in Article 2(1) of the Council Directive 2003/4/EC. That Article says that "Environmental information" shall mean any information in written, visual, aural, electronic or any other material form on:

(a) the state of the elements of the environment, such as air and atmosphere, water, soil, land, landscape and natural sites including wetlands, coastal and marine areas, biological diversity and its components, including genetically modified organisms, and the interaction among these elements;(b) factors, such as substances, energy, noise, radiation or waste, including radioactive waste, emissions, discharges and other releases into the environment, affecting or likely to affect the elements of the environment referred to in (a);

We do not consider that radio emissions from licensed transmitters are currently "affecting or likely to affect the elements of the environment referred to in (a)", and therefore we do not consider that they should be considered under either the Council Directive 2003/4/EC or the Environmental Information Regulations 2004. We would be very interested to understand the basis on which Ofcom have decided that such emissions do affect the environment.

Notwithstanding this position, we will continue to respond to the questions presented by Ofcom in this Consultation document.

Question 1: Is there information that we are planning to release that would be covered under one of these exceptions and if so what is the supporting evidence?:

The BT network carries HM Government traffic, including Ministry of Defence circuits, as well as underpinning the national communications infrastructure. If it becomes possible to identify specific radio links, there would indeed be a potential risk to national infrastructure, and hence to national security. Hence we propose that exception (a) does apply to BT's specific network information. Please note that a very similar exemption can be applied for by any licensee subject to the US Radio Spectrum Inventory Act (March 2009), which covers all spectrum managed by the NTIA or FCC, and to which reference is made in this consultation document. We cannot, of course, know how many such exemptions have been granted.

--Extract from US Radio Spectrum Inventory Act--

(b) National Security Exemption- A licensee or government user of spectrum may petition the Commission or the National Telecommunications and Information Administration for a partial or total exemption from inclusion on the website and in the report required by subsection (a). Such an exemption may be granted only to the extent that each such agency determines that disclosure of such information would be harmful to the national security of the United States. The licensee or government user seeking an exemption under this subsection bears the burden of justifying the exemption and shall provide clear and convincing evidence to support such an exemption. Any such exemption shall apply only for 2 years and shall expire upon the end of such 2-year period unless the licensee or government user seeks and obtains an extension in accordance with this subsection. Any information that is excluded from public disclosure pursuant to this subsection shall still be compiled and reported to the Committees of Congress described in subsection (a)(4) on a confidential basis.

The US Radio Spectrum Inventory Act (2009) is also not intended to specify the exact geographical location of a base-station or transmitter, nor exact details such as antenna height, tilt, gain, type. Rather, the intention is to build a published map of the approximate coverage and signal strength, within each licensed frequency band. Links not carrying sensitive traffic could be targeted if they are near military or strategic sites. By providing information on the antenna pointing angle, the receiver station could be deduced, and any transmitter operating from that station in the same frequency band could be assumed similarly to be of significance. Antenna type may also reveal the nature of the radio communications.

We would also appreciate further information regarding the "licence class" field, example page 16 of the consultation document. Classifications beyond simple "consumer" and "business" classes could provide further information regarding national infrastructure, to less than well meaning parties.

With the current fear of terrorism it would be, at best, unwise to make publicly available information which is not strictly essential. We also recall the disruption arising following the London Bombings of 7 July 2005, when the mobile phone network struggled to cope with the increase in traffic. This gives an indication of the chaos which could ensue if it were to be the mobile phone network itself (either the base stations or the backhaul links) which were to be attacked. Providing nonessential information about any radio transmitters, underpinning national networks, which would enable a map of radio links to be deduced, should be avoided at all cost. Further evidence in support of an exemption, either generally or specifically, can be supplied on request.

Question 2: Is there information that we are planning to release that would not be in the public interest to do so looking at each exception individually and then in aggregate and if so what is the supporting evidence?:

Whilst we fully understand the public desire for information regarding all environmental emissions, including electromagnetic radiation, we believe that it should be presented in a format which is both relevant and useful. The present proposals appear to be suggesting that all of the transmitter and antenna parameters and characteristics should be listed, but we believe that this is neither meaningful nor appropriate for interpretation without the assistance of radio experts.

The purpose of the EIR regulations might be said to be to enable people to determine the environmental impact of the transmitters in their area, and simply opening the database for public scrutiny may be criticised as a meaningless exercise: It might comply with the law, but doesn't really address public concerns whatever they may be. A more appropriate response to the legislation could be to develop the existing WRT system so that it determines the most significant transmitters in the vicinity (taking account of distance and transmit power), and an estimate of the field strength from each transmitter at the location. It may also be appropriate to provide a facility to obtain more specific information about a given transmitter, in order to allow an independent expert to be used to provide more detailed calculations, if the consumer wishes. Such a process would enable the user to obtain meaningful information, complying with the spirit of the EIR, as well as the wording of the EIR.

Annex 8 (Table 8.1) provides a long list of information which is listed as being EIR information, although we question whether much of this is really relevant under the EIR. To determine the electromagnetic radiation from a transmitter experienced at a particular point, it can be determined sufficiently accurately from a few key parameters (transmitter output power, antenna gain in the direction of the observer, separation distance). Providing the boresight direction of the antenna is known, there is no value in providing details of the receiver station, horizon elevation, length of the radio path, class of emission, commencement / termination dates, timeslot base & mobile, antenna polarisation, etc. We understand that these parameters may be relevant and useful for spectrum trading purposes (as discussed in Section 5), but the EIR is not intended to address spectrum trading, and the distinction between them should not be blurred. There is a case for making certain information publicly available to all under the EIR, and there is a separate case for divulging other information for spectrum trading purposes. But we believe that the information used for spectrum trading purposes (i.e. not under the EIR) can and should be more tightly controlled. It would be appropriate for Ofcom to operate a registration scheme, to allow authorised users to interrogate the database for spectrum trading purposes, but this should be considered separately from the EIR obligations.

We believe that the proposed benefit of reduced coordination times of fixed links is of little advantage as it would be a lengthy process for an operator to extract details such as the frequencies, transmit powers and antenna characteristics of existing links from the WRT before submitting a licence application. However the publication of the high/low configuration of fixed links would be an advantage see response to Question 3

We note with interest the information provided in Annex 7, giving examples of countries in which information is publicly available. Whilst this provides a list of examples where transmitter information is available, we believe that this needs to be placed in context. Recognising that we are considering the UK legislation as a consequence of the European Council Directive 2003/4/EC, it is most appropriate to compare against the situation in the other Member States of the EU. From fellow

telecoms operators we have information to suggest that transmitter parameters and locations for fixed links are not publicly available in the following countries: Greece, Ireland, Italy and Netherlands. In Estonia, France and Germany only limited information is available from which it would not be possible to deduce the network layout. These countries have shown that it is possible to give sufficient information to reassure the public regarding the transmitter emission levels, without giving unnecessary details about the network of radio links (see the Annex to this response which follows here).

ANNEX

We note with interest the information provided in Annex 7, giving examples of countries in which information is publicly available. Whilst this provides a list of examples where transmitter information is available, we believe that this needs to be placed in context. Recognising that we are considering the UK legislation as a consequence of the European Council Directive 2003/4/EC, it is most appropriate to compare against the situation in the other Member States of the EU. From fellow telecoms operators in these countries, we have obtained the following additional information:

- Estonia although Annex 7 suggests that information is available on all transmitters, we understand from one of the national operators that, in those cases where there is a regional/national licence, under which the operator can plan their own network, the transmitter locations and parameters are NOT publicly available for FWA and mobile networks .
- France transmitter sites are identified, with an indication of the nature of the transmitter (e.g GSM/UMTS, broadcast, point to point, etc), but there is no information from which it would be possible to deduce either the operator / licence holder, or (in the case of point to point systems) the direction of transmission. There are also sample field strength measurements (in particular in urban areas), but these are primarily to reassure the public, without providing any commercial information. Hence it would not be possible to deduce the network connections for an operator.
- Germany Some information is publicly available, namely the transmitter location, type, antenna height, antenna direction, and safe distance from the antenna (in the boresight), but this is not sufficient to determine either the licence holder, or the receiver site (in the case of point to point links), and hence it would not be possible to deduce the network connections for an operator.
- Greece no information on transmitters is publicly available Ireland - information is available, but it appears to be limited to mobile phone network Base Stations
- Italy no information on transmitters is publicly available

Netherlands - Information is currently only publicly available on mobile Base Stations and TV/Radio Broadcast stations, but not for other transmitters (e.g. radio relay stations). Whilst there is a variation in approaches between these different European Member States, the two common features are that:

a) insufficient information is provided to enable the network to be deduced (i.e the receiver station is not identified).

b) information identifying the network operator is not normally provided

These countries have shown that it is possible to give sufficient information to reassure the public regarding the transmitter emission levels, without giving unnecessary details about the network of radio links. In many cases, the information is provided only or primarily for mobile network Base Stations. We believe that Ofcom should follow the lead set by these other European Member States, and focus on providing only sufficient information to enable the maximum field strength to be determined in the vicinity of the transmitter station, without providing information on either the licence holder, or any indication from which the receiver site can be deduced. This would allow operators to provide the information, without fear of compromising either the security or commercial aspects of their network.

Question 3: We would welcome comments and views on the information we already make available, in particular areas where stakeholders believe this could be improved.:

For operational reasons we would like easier access to the high/low configuration of fixed point to point links from all operators; the actual frequency, transmit power and antenna characteristics are unimportant. This would facilitate early warning of potential high/low problems when applying for licences and deploying links adjacent to other operator's infrastructure.

Question 4: We are interested in the views of stakeholders on what information in addition to that contained in Annex 8 they think would help to ensure optimal use of the electro-magnetic spectrum, and on the impact the disclosure of this information might have on licence holders.:

BT has already expressed it's views that the proposed advantage of allowing operators to perform initial coordination checks prior to a licence application is impractical and as such the publication of all the information listed in Annex 8 is of little value. Note our response to question 3 where we state that the simple publication of high/low configurations would be an advantage as it would help reduce the number of high/low clashes and prevent the creation of "dirty sites".

("Dirty Site" is the Ofcom term for a site with a high/low configuration clash. i.e. a site that hosts transmitters in both the low and the high portion of the given frequency band.)

Question 5: We are interested in views regarding the areas where we should look towards focusing future research and studies on, and the benefits this will bring to industry, citizens and consumer? What information could we provide to encourage innovation and research?:

No response.

Question 6: Would stakeholders find information on the price paid for a traded spectrum licence useful and believe that we should make the provision of this mandatory? :

BT supports the publication of historic information on spectrum transactions. Indeed it is practically impossible for a company, or organisation to perform a cost benefit analysis on its spectrum assets and requirements without information on previous spectrum transactions; this information must include the monetary value of the spectrum licence as well as the detailed terms of the licence.

However this information need not be made public; only "spectrum managers" and other associated professionals (rather than the general public as a whole) will need access to the information for trading, etc. So it would seem to be reasonable to have a registration scheme, so that Ofcom could control / monitor the database searches. Of course, anyone would be permitted to apply for registration, and it would be difficult to restrict who has access, but we believe that the process of Ofcom logging database searches to a particular (known) user may act as a deterrent against suspicious / malicious activity; not least because such registration could and should be designed to provide an audit trail.

Having made these comments, BT feels that the publication of spectrum trading information is independent to the requirements of the EIR, which this consultation intended to address.

Question 7: If yes, what would be the most appropriate way for us to collect these data, for example asking for the specific value, using a check-box system? In what format should information be provided, for example displayed in aggregate format?:

No response.

Question 8: Do you have any views about the regulatory burden that this would place on the parties involved in a trade, for example would the cost of providing information be prohibitive? Do you have any concerns about the confidentiality of this data?:

No response.

Question 9: We are interested in comments on whether the publication of spectrum usage data would be beneficial to stakeholders, what should be included and what format this should take.:

A map of the UK representing the number of channels used for each fixed link band would be of interest to BT. This would be of value when determining areas of congestion and would help when making equipment and network planning policy decisions. However, simple measurement campaigns of average signal levels in various frequency bands may not provide any useful information, and could potentially misrepresent the use of the band if undertaken in a manner which would fail to detect any signals transmitted in the band; this is particularly the case for the fixed link allocated bands, where the antennas are, by the very nature of the technology, very directional.

Question 10: We would welcome any further views on whether there are other areas of non-price information that could be published to the benefit of citizens or consumers.:

No response.

Question 11: We would welcome any further views on whether there are other areas of non-price information that could be published to the benefit of citizens or consumers.:

BT would like to re-iterate its concerns about the risk to both the physical and commercial security of its network following the publication of all the data listed in Annex 8 and the subsequent consequences this could have on defence and national security.

We recommend that only the high/low configuration of links is made available within the WRT system and only licences available for trade have more information added.