

# **Health, Social Services and Housing Panel Telephone Mast Review**

**MONDAY, 22nd JANUARY 2007**

**Panel:**

Deputy A. Breckon of St. Saviour (Chairman)

Deputy C.H. Egré of St. Peter

Senator B.E. Shenton

Connétable M.K. Jackson of St. Brelade

**Witnesses:**

Mr. J. Rabaste (Director for Technology and Planning, Jersey Telecom)

Mr. D. McDermott (Associate Director of Corporate Affairs, Jersey Telecom)

Mr. T. Knights (Manager, Mobility and Radio Group, Jersey Telecom)

**Deputy A. Breckon of St. Saviour (Chairman):**

Well, good morning, thank you. What I will do in a moment or 2 is just ask each of you, for the benefit of the tape to introduce yourselves and your position within Jersey Telecom. You are not on trial for anything I should say so it is fairly relaxed. We are not here to embarrass you or anything else. We are only fact finding really and sought you to come here today to assist us in this process. What I would like to do is outline why we are here. My name is Alan Breckon and I am the Chairman of the Health, Social Security and Housing Scrutiny Panel and under that panel we set up a sub-panel to review the telephone masts in Jersey. The other members are Deputy Collin Egré of St. Peter, Constable Mike Jackson of St. Brelade and also Senator Ben Shenton who sends his apologies. He has got a number of other engagements today so he will come and go. So it is nothing personal if he comes in and goes out again. He has got a number of meetings and he will, as I say, come and go. I do not know if you are aware of our terms of reference. The procedure really is that this hearing is recorded and transcribed. Fairly quickly we will turn that around and you can get a copy of the transcription. If there is anything you say that is incorrect, if you say 30 and it should have been 50, you will be given the opportunity to correct that because, as I say, we are not here to embarrass anybody if they do make a mistake. Then within about 7 days after that we intend to publish it. It is a public hearing so it becomes a matter of public record. As I say, you will get the opportunity to correct anything and you will have a 4 or 5 days to do that. Our terms of reference is that the sub-panel will consider the concerns of the public relating to the perceived health implications as a result of the increase in applications for mobile phone mast installations following the recent expansion in the mobile telephony market. In undertaking this review the sub-panel will have regard to the advice provided by the Health Protection Department, international standards and best practice in respect of health precautions, health concerns raised by the public and reporting its findings and recommendations to the States. So that is really where we are. The only thing

I would ask Deputy Egré to inform you of the process for this because you are granted certain privilege in this hearing so that you can tell the truth, the whole truth and nothing but the truth.

**Deputy C.H. Egré of St. Peter:**

Just to continue with the formalities at this particular stage I am committed to read this to you, you have copies in front of you. “It is important that you fully understand the conditions in which you are appearing at this hearing, you will find a printed copy of the statement I am about to read to you on the table in front of you. The proceedings of the panel are covered by parliamentary privilege through Article 4 of the States of Jersey Law 2005 and the States of Jersey (Powers Privileges and Immunities) (Scrutiny Panels, PAC and PCC) (Jersey) Regulations 2006 and witnesses are protected from being sued or prosecuted for anything said during hearings unless they say something that they know to be untrue. This protection is given to witnesses to ensure that they can speak freely and openly to the panel without fear of legal action although the immunity should obviously not be abused by making unsubstantiated statements about third parties who have no right to reply. The panel would like you to bear this in mind when answering the questions. The proceedings are being recorded and, as has been said, transcriptions will be made available on the Scrutiny website.”

**Deputy A. Breckon:**

Thank you for that. Now, I leave it to you, gentlemen, how you wish to proceed with this. First of all with the introduction, if you would like to introduce yourselves and say what your position is in the company, that is for the benefit of the record.

**Mr. D. McDermott (Associate Director of Corporate Affairs, Jersey Telecom):**

I am Daragh McDermott, Associate Director of Corporate Affairs in Jersey Telecom.

**Mr. J. Rabaste (Director for Technology and Planning, Jersey Telecom):**

I am Jerry Rabaste, I am the Director for Technology and Planning for Jersey Telecom.

**Mr. T. Knights (Manager, Mobility and Radio Group, Jersey Telecom):**

I am Tim Knights, I am the Manager of the Mobility and Radio Group of Jersey Telecom.

**Deputy A. Breckon:**

Right, procedurally we did issue you with a list of questions. We might vary from that. The idea was really to give you something to think about in preparation. Following from that there might be things that you cannot remember. This is part of a process, not the end of it so there could well be some follow up of that between you and I, further questions that you might need some time to answer. Really we are starting from Jersey Telecom being the oldest operator, if you like, in the Island so we have come to your first and really where we are starting from is some of the history and there is a list of questions

there really about it. The first one is when were mobiles phones first used and sited in Jersey. As I say, between yourselves, whichever way you want to do it, the only thing you would have to do, for the benefit of the tape, you would have to say who you are so that can be picked up.

**Mr. J. Rabaste:**

Yes, certainly. Jerry Rabaste. There have been masts in the Island for many, many years, often used for radio links between Jersey and the adjacent islands. The first use of them for a cellular type system, personal communication system, was from about 1984 when the then cell analogue system was extended to Jersey and we had sites at La Chasse in St. Ouen, Gorey and on the chimney at La Collette. The GSM (Global System for Mobile Communications) system, which is often called the second generation system, and that is the one that is currently in use in the Island, was introduced by us in 1994 and at that time we were expecting to grow to perhaps 5,000-6,000 customers and had to put in more towers accordingly to provide coverage across the Island. We put in about 7, I think, at the time, and very soon it became apparent that it was not sufficient because the coverage across the Island was not good enough and people were complaining. Over the years we have had to put up more to provide coverage and also to provide more capacity for the growing number of customers. This has grown because of price drops, better technology and also the introduction of the pre-pay system a few years ago. Now we have got something like 106 sites on the Island of which 8 are on large lattice masts and then about 50 of them are on wooden poles or on buildings. We also have something like 48 micro sites, which are off things like phone boxes, very low powered sites. So the system has grown considerably from about 7 to somewhere over 100.

**Deputy A. Breckon:**

When you say “coverage” you mean that is reception really, so people in the Island, wherever they may be, can pick up a signal. So what you are saying is that the growth in masts was due to customer demand, that kind of thing?

**Mr. J. Rabaste:**

Yes, that is right, because the difficulty of covering the Island effectively with the valleys and hills and also the requirement to try and make the sites so that they were not visually bad looking sites. We have tried to keep them as a low profile small site and therefore you need to have a lot of small sites to provide coverage into all these places. That has been following customer demand.

**Deputy A. Breckon:**

Just before we move on a little bit to the masts, can you just give us some background about the mobile phone masts, I think that it has been used to saturation for the amount of mobile phones that we have as a population. Do you have any background to that?

**Mr. J. Rabaste:**

There was, I think, something in the paper in the last week or so regarding the amount of masts, possibly making us one of the most densely covered places in the world. I would find that hard to believe. Jersey has a population of less than 90,000, somewhere like Hong Kong Island where there is a population about 7 million in the Hong Kong colony, of which several million are in the Island itself, the Island is similar to the size of Jersey with 6 networks, then their density of masts must be a lot higher than Jersey will ever experience. They even have coverage on the underground trains there so it is really total blanket coverage. Jersey, even if we were to do that would have far fewer masts. That is with 3 operators.

**Deputy A. Breckon:**

Can I just come back to the actual mobile phones, the contracts you have. Do you have more contracts that there are people?

**Mr. J. Rabaste:**

Yes, about there is about 102,000 mobile phones on our system at the moment. That is split between pre-pay 60 per cent, perhaps, and contract phones.

**Deputy A. Breckon:**

Other operators have some as well so there is more than that as well?

**Mr. J. Rabaste:**

The only one that is operating at the moment is Cable and Wireless and we do not know how many they have.

**Deputy A. Breckon:**

Okay. You have mentioned earlier the sites and the locations, can you tell us how that system operated when you went to the States' committee with regard to planning? Did you have to apply for planning permission?

**Mr. T. Knights:**

Yes, Tim Knights. The process itself has not changed. At the time we believed, and this was confirmed by Planning, that there was not a requirement for us to apply for planning permission. We took the decision that we would apply for planning permission for all of our sites. The actual process now is exactly the same, apart from the extra parts that have been added recently with the requirement of putting an estimation of the values for health, the actual planning principles are exactly the same now as they were before.

**Deputy A. Breckon:**

Do you have a comprehensive list or a site map of all your installations?

**Mr. T. Knights:**

Yes, we have and we provided that to planning and to the Ministers, the Council of Ministers asked for a copy of that as well, which we provided some time ago.

**Deputy A. Breckon:**

Is that publicly available or not?

**Mr. T. Knights:**

The information we provided to Planning is on the Planning website so it is freely available to anyone.

**The Deputy of St. Peter:**

If I could just ask a question on that one, Mr. Knights. Is that a comprehensive list? Because one of the things that we have been asked over the last few days is numbers, sometimes we get numbers "about" 106. Are these definitive numbers? Are we saying we have 106 sites, of those sites 50 are wooden poles, 8 are on lattice and 48 are on micro sites? Are these exact figures at the moment?

**Mr. T. Knights:**

I think the confusion has arisen because of the telephone kiosks that we have used.

**The Deputy of St. Peter:**

That is why I am asking you to deconfuse it.

**Mr. T. Knights:**

Yes. We have got 2 types of site: we have got the macro site with the large antennas, they are quite visible, and then we have some very small sites such as the telephone kiosks and a few indoor installations. These are really just boosters and they are very low powered with antennas that are a few inches high. They just provide coverage in the very immediate area. Planning made it clear to us that they have no interest in the telephone kiosks because there is nothing visible. As far as they are concerned it is an indoor installation. So, they have not published the kiosk information on the website because they do not believe it is --

**The Deputy of St. Peter:**

But, in effect, you have, and in that publication you are saying you have, what, 48 of those?

**Mr. T. Knights:**

Yes, we provided a comprehensive list to the Council of Ministers which included the kiosks. I am not aware of whether that has been published but that is where the total amount comes from.

**The Deputy of St. Peter:**

We have it.

**Mr. T. Knights:**

You have it? Yes. We have got the information on Planning's website which contains all of the, I would say, the key macro sites. So the only thing that is missing from them is a few indoor installations and the telephone kiosks.

**Connétable M. K. Jackson of St. Brelade:**

Is there any indication on the sites that there is an aerial present, whatever type of aerial that may be?

**Mr. T. Knights:**

Yes, every site is comprehensively labelled with various signage. There are internationally recognised signs on the antennas themselves, even on the kiosks themselves. Then there is additional notices on the macro sites giving safety information about the type of installation, the safety distances, references to the standards and also emergency contact information.

**The Connétable of St. Brelade:**

So these are readable by the general public?

**Mr. T. Knights:**

Very much so.

**The Deputy of St. Peter:**

What sort of safe distance would be being applied to those sites sitting in a telephone box? What sort of power output do you expect from one of those?

**Mr. T. Knights:**

The power output is very low. . The safe distance is typically less than 10 centimetres. So we have placed the antenna inside the kiosk so that with the covering of the roof of the kiosk it is not actually possible to get within the safe distance, even if you sat on the kiosk itself because the antenna is inside there is no risk to the public. Unless you took the roof off and grabbed hold of the antenna there is no risk.

**The Deputy of St. Peter:**

When you say “low power” can you give me some idea about power output?

**Mr. T. Knights:**

The equipment we use is called a micro BTS (Base Transmitter Site), it has either a 2 or 4 watt output.. A mobile phone has a peak output power of 2 watts..

**The Connétable of St. Brelade:**

Is this output continuous or does it only happen when someone uses a phone in that area?

**Mr. T. Knights:**

It is both. The equipment continually transmits using one of their channels and that is how the mobile phones are aware that these transmitters are nearby. Then there is these other channels that are only used when people are making phone calls.

**The Connétable of St. Brelade:**

So if there is a large number of phone calls going on in a particular area the emission from the area will be greater than normal, am I correct in saying that?

**Mr. T. Knights:**

For the GSM network that is true, yes. Not quite so true for the 3G (third generation) network, but that is a fair principle to use.

**The Connétable of St. Brelade:**

Can I ask there is increased demand for mobile phones - you mentioned a figure of 102,000 and clearly that is going to increase - do you think the number of telephone masts will have to increase to match that demand?

**Mr. T. Knights:**

There is a couple of reasons why the number of masts will need to increase. First of all each operator will tell you that we do not have all Island coverage. There are still areas where we have customer complaints and we would like to provide a better service to our customers, so that is going to mean some additional sites. But also with technology changing and with the introduction of, for example, the third generation, the 3G, networks, the customers and the world as a whole are expecting to use mobile phones increasingly for data, for high-speed usage. Now, the more information you are trying to use with your mobile phone the higher the frequency required. The 3G system itself has to use a higher frequency. The higher the frequency the denser number of sites will be required. So the third generation networks are going to require an increased number of masts. So as we develop our third generation network, which we are doing now, we are going to need to increase the density of sites,

which will be the same for all 3G operators around the world.

**The Connétable of St. Brelade:**

In practice, the result for Jersey with 3 suppliers, with authorising 3G we could have the prospect of an increased density of mast being required in the Island?

**Mr. T. Knights:**

Yes.

**Mr. D. McDermott:**

Sorry, that would have happened in any case when you introduced competition in the mobile sector. You have Jersey Telecom with its own network, when you introduce Cable and Wireless and when you introduce Bharti Airtel they will need to compete with Jersey Telecom and hence require the same type of coverage which, given that they are rolling out their own network, will require the same number of masts depending on how they do it. The availability of masts for sharing -- because of the approach that was taken to rolling out Jersey Telecom's network in a way that did not impact on the local environment. It means that those masts are quite small and hence they do not lend themselves to sharing.

**The Connétable of St. Brelade:**

Does your company measure emissions from masts and its space(?) stations and, if so, how do you do it?

**Mr. T. Knights:**

Yes, it might be worth explaining just a bit how that process works. The equipment that we use, the macro equipment, the larger cabinets, when they are working at full power they are working at their maximum licence power. What we then have to do is ensure that the public cannot get into an area where they are exposed to a level higher than the ICNIRP (International Commission on Non-Ionizing Radiation Protection) recommendations. So you have the equipment itself which is transmitting to its licensed power and then you have a distance away from that equipment, from the antennas, at which point the signal levels from the antennas then become less than the specified ICNIRP standard. So we carry out theoretical planning, we know the characteristics of the equipment, we know the output power and by looking at the distance we can work out what ICNIRP distance that is. From a theoretical point of view, we always know what the power levels will be and what the public would be exposed to but we do carry out further tests using measurement equipment that we purchased some time ago to really back up our calculations. But all the equipment is basically the same. The macro equipment all has the same output power. We use the same sort of antennas so it is not as if you would get any variation between the sites. So really once you have measured one and checked that your theoretical calculations are



correct, you know that it is okay for all of the sites. We do carry out regular testing and we are required to by the planning process now. We have to make an estimate of the signal strengths when we put in an application and this is passed on to Health and then we have to follow that up with documented measurements of sites as well. So we cover it from a theory and a practical point of view.

**Deputy A. Breckon:**

When you said “documented measurement” do you report that to Planning or to Health or do they ask for anything for compliance?

**Mr. T. Knights:**

Very much so. It is part of the planning permit. We have to build the site first obviously to be able to test it. Once we have built the site we have to then provide documentary evidence to Planning who pass it on to Health. If that is not done then the planning permit will be revoked.

**Deputy A. Breckon:**

Post installation. Is it done, say, on an annual basis after that? Do they insist on that or not?

**Mr. T. Knights:**

It has to be done within a year but there is no requirement for further testing. That does makes sense in that the equipment cannot go faulty and suddenly start transmitting at a higher power level because it is working at its highest power level when it is turned on.

**Deputy A. Breckon:**

Could you just explain to us, would that equipment ebb and flow demanding on demand?

**Mr. T. Knights:**

Yes, it does. The more customers that are using it then the higher power levels that will come out of the antennas but all the theoretical calculations were carried out based on worst case maximum power usage, which never occurs in practice. When we carry out the practical measurements we have always found the levels to be normally less than 1 per cent of the ICNIRP standard. So even if the sites were busier than at the time of testing them with those sort of numbers you are not going to get anywhere near peak levels.

**The Connétable of St. Brelade:**

The French have recently set out guidelines for mobile masts in France, which is not far away. Do your standards match the French? Are you aware of that?

**Mr. T. Knights:**

Yes. The French still work to the ICNIRP standards and we follow the same standards and have done for many years.

**Mr. D. McDermott:**

Those ICNIRP standards that we talk about now are as were contained in a document that we provided you for the purposes of these meetings. That requirement is contained in the licence that has been issued to us by the JCRA (Jersey Competition Regulatory Authority). So although there might not be a third party checking whether or not we do comply with those standards, we must ensure that we do comply ourselves if we are not to jeopardise the licence that has been issued to us.

**The Deputy of St. Peter:**

Two points on licensing. Mr. Knights, you mentioned the fact that part of the licence agreement was a stipulation - or appeared to be a stipulation - of the maximum power output of any one area. What is that maximum power output?

**Mr. T. Knights:**

There is a power output out of the antenna itself which is part of the OFCOM (Office of Communication) requirements but that is not related to ICNIRP. The ICNIRP standard --

**The Deputy of St. Peter:**

If I can just bring you back to the licence agreement. You intimated that the licence agreement stated the highest power --

**Mr. T. Knights:**

Right, yes. It is 32 dbW.

**The Deputy of St. Peter:**

Okay. Now the other point that you intimated -- I am sorry I did not get your name, you did not give your name when you first talked on --

**Mr. D. McDermott:**

Daragh McDermott.

**The Deputy of St. Peter:**

Mast sharing. You indicated that there were certain masts when you put your infrastructure in place that were not suitable for mast sharing. There appears to be some concern about whether or not Jersey Telecom, because of commercial reasons, are trying to avoid mast sharing. Would you like to comment on that?

**Mr. D. McDermott:**

Yes, we have a licence obligation, which we take extremely seriously, to make available, where reasonable, our sites for other operators.

**The Deputy of St. Peter:**

Who defines where reasonable?

**Mr. D. McDermott:**

The JCRA in the final analysis. If we were doing something that was not considered reasonable by them, there are steps open to them in order to force us into sharing. We may take a position based on what we believe appropriate but it will be the JCRA that analyses whether or not that position is reasonable. In our licence we have those obligations. We have mast sharing agreements, we have templates, we have the sites that are available for sharing and it is up to the other operators to come to us and say: "We want to share this mast." They need to make available what they want to put up there. We need to assess in terms of health and safety, in terms of everything else about whether or not the mast will --

**The Deputy of St. Peter:**

How long to you expect this process to take if someone said: "I want to share your mast"?

**Mr. D. McDermott:**

That entirely depends on what exactly it is they want to put up there. If it is a small antenna there should not be too much difficulty but invariably if you are rolling out a new network they will want to put microwave equipment up there also to meet with other sites in order to backhaul traffic to their centre. It really depends exactly what it is they want to put up there.

**The Deputy of St. Peter:**

Just to finish this one off, how many masts at the moment that are owned by Jersey Telecom are shared?

**Mr. D. McDermott:**

Are shared? None at the moment because we are in that process of Bharti Airtel rolling out their network and we are in discussion with them Cable and Wireless are not up at any of our sites yet.

**The Deputy of St. Peter:**

Just to clarify, although in principle there should be mast sharing, at the moment there is not any?

**Mr. T. Knights:**

There is a number that are in process to have equipment fitted on them. We have also not refused any requests to share on any of our sites.

**The Deputy of St. Peter:**

But just as we sit here today, at present, there are no masts that are physically shared?

**Mr. T. Knights:**

No. To give you an example, there is a mast at Rue Des Bechet which Cable and Wireless and Airtel wish to share. It can be a lengthy process and that is a good example in that the tower almost has to be strengthened with new foundations put in because of the extra load from the equipment they are putting on. We are working with our mast suppliers to get that done as fast as possible. But it is a long process.

**Mr. D. McDermott:**

Another example would be the major site up in Five Oaks. Cable and Wireless did not apply to share that site, they instead share the site belonging to 2E2 next door and did not bother trying to get up there. On the other hand, Bharti Airtel have applied and we are in the process of finalising arrangements to allow them put their equipment up there.

**Mr. J. Rabaste:**

Can I just provide a bit more clarity. I mentioned before the number of sites we had, I think it was 106, and the break down of the sites. A lot of those are micro sites. Because of the requirement to try and provide a network with small wooden poles in the past so the sites were not hard on the eye, a lot of our sites just are not suitable for sharing because they cannot take the loading of the antennas. They were designed for one set of antennas, for one operator. This was at the time there was no competition. So the reason there is not any sharing at the moment is largely because there have not been many applications.

**The Deputy of St. Peter:**

Just double checking my figures, I noted as you gave them to us, 8 lattice masts, 48 micro sites, now how many of those are pole sites? Because those are the ones obviously you are suggesting cannot be shared.

**Mr. T. Knights:**

There is about 20 pole sites but out of those mast sites we do not own most of those. They are owned by companies such as National Grid Wireless and Arqiva which are the old BBC (British Broadcasting Corporation) and NTL (National Telecommunications Limited) masts. Even the one at Rue Des Bechet we do not own. We only own really 2 masts that are shareable, that is the large ones at Five Oaks and at Le Chasse. We then have some much smaller ones, they are only 12 metre ones. They were not

attractive to the other operators because they just were not big enough. So really we have only got 2 structures that are of any interest to the other operators and that really are shareable, and we have opened up those to share and they will be shared.

**Mr. D. McDermott:**

If I can add to that, for one of two of our sites we do not own the land on which the masts are placed. For example, we lease the land from the airport at La Chasse and if somebody wants to put additional electricity equipment at the bottom they need to rent or lease part –from the owner.

**The Deputy of St. Peter:**

La Chasse is just the Department of Electronics?

**Mr. D. McDermott:**

Yes.

**The Connétable of St. Brelade:**

Just to follow up on sharing. Clearly we have the mast issue and the antenna issue on the mast. The large electricity boxes, for want of a better word, when it comes to sharing, would a different company be required, or in technical terms would it be necessary to put an additional box or base at the bottom of the mast?

**Mr. D. McDermott:**

Yes, each operator will have its own equipment. There has been a different approach taken. Our cabinets are quite small. You are talking 1.5 metres wide by about a metre high. They literally are fairly small structures. The approach taken by Cable and Wireless, I think you are referring to the large boxes next to the monopoles, they are known as portacabins. They are buildings that they put racks of equipment indoors because cost wise it works out to be less. That is not an approach that planning were happy for us to do when we built our original network so the equipment we have got is known as outdoor equipment so it is all contained within a much smaller cabinet.

**Mr. T. Knights:**

But, yes, each operator is required to have its own cabinet, whether that is done with an outdoor cabin, building, or whether it is done with the smaller types that we use.

**The Connétable of St. Brelade:**

So, in practice, just to pick up on that, if the total sharing agreement were to be commercially acceptable it could be within the realms of possibility that the ground equipment could go into a larger cabinet?

**Mr. T. Knights:**

It could all be put into a room, like a much larger indoor portacabin. That is technically possible but it would still take up the same sort of space.

**Deputy A. Breckon:**

I wonder if you could shed any light on getting electricity supplies, is it there in most cases or has it been a fairly --

**Mr. T. Knights:**

It is a mixture. We have always tried to use existing buildings wherever possible because we do not like putting up masts, masts are expensive and normally on an existing building there is an electricity supply. If you are out in the rural areas where there are no suitable buildings or structures to use and you have to put up something new then electricity can be a real problem. You may be talking of long digs, 100 metres or so, across fields to get the electricity supplies in. Yes, it is a problem but it is not something that cannot be overcome.

**Deputy A. Breckon:**

You do not need a specialist supplier of 3 phase you just need domestic equipment?

**Mr. T. Knights:**

Just single phase, yes.

**The Connétable of St. Brelade:**

In terms of putting masts on private property, are there any indemnities given by Jersey Telecom to the landowners in this situation?

**Mr. T. Knights:**

We have a licence agreement with every site owner that does have that contained in it. There is a list of practices which we adhere to make sure we have a safe system of work in place for all the equipment that is placed on the site owner's land.

**The Connétable of St. Brelade:**

Sorry, I have thrown this question to you that probably is not on your list. I have just thought about it.

**Mr. T. Knights:**

The actual licence agreement was provided to us by Property Services when we were a States department and we have used that since.

**The Connétable of St. Brelade:**

So you are not aware of any indemnities given by Jersey Telecom to individual landowners?

**Mr. T. Knights:**

There are general indemnities in the licence but I would have consult a copy of the licence to provide a more detailed answer

**The Connétable of St. Brelade:**

Could you possibly do that? What concerns me inevitably if there were to be health issues in the future, insurance questions do arise and there could be a need for some sort of indemnity and it would be interesting to know if your lawyers have discussed this in any way.

**Mr. D. McDermott:**

It does relate to your question 14 on whether or not we have limited liability insurance which is probably appropriate to talk about now. I was at the public meeting on Friday night and people alluded to an exclusion for mobile phone companies in terms of their public liability insurance. We have public liability insurance up to £60 million and there is no exclusion whatsoever to do with anything relating to mobile phones, masts and it therefore is included in that cover.

**Deputy A. Breckon:**

Can I just come back to monitoring equipment? You mentioned that a licence is issued and then post installation there is a sort of check against the equipment compared with the licence and is done by you and you make the report?

**Mr. T. Knights:**

Yes.

**Deputy A. Breckon:**

Do you do that in house or is that independent?

**Mr. T. Knights:**

It is done in house but it is done with internationally recognised equipment. The same equipment that OFCOM use for carrying out independent measurements. The same equipment that was used in Guernsey recently by the --

**Deputy A. Breckon:**

Can you just give us some idea how much that equipment would cost to do the testing?

**Mr. T. Knights:**

£12,000.

**Deputy A. Breckon:**

£12,000, and is there, like government or anybody else, an independent agency that does that or do most operators do it themselves?

**Mr. T. Knights:**

Both. There are agencies that will carry that testing out and that is what was done in Guernsey and has been done in Jersey before by OFCOM. But also the operators tend to have their own measuring equipment to better carry out a double check.

**Deputy A. Breckon:**

Again, just on that, can I ask you a question. If it does deteriorate with age or it is just a case of it works up to a capacity or it does not --

**Mr. T. Knights:**

It either works or it does not.

**Deputy A. Breckon:**

There is no deterioration.

**Mr. T. Knights:**

No.

**The Deputy of St. Peter:**

I am glad to hear you were there on Friday because you therefore would have been able to assess some of the concerns that were being expressed to us as a panel. If I could just touch on one, going back on sites. I think you heard some of the interesting figures that were quoted that certain people were benefiting, in other words the landowners were benefiting, from allowing aerials to go on their site. We have an anecdotal suggestion that one person received £60,000. What sort of reality figures are we talking about for those people who are leasing land to you?

**Mr. T. Knights:**

Until the advent of competition we paid quite a low amount of money for rentals, typically ranging from a few hundred pounds to less than £1,000. We did not pay any more than £1,000.

**The Deputy of St. Peter:**



I will just double check one tiny detail, is that per annum?

**Mr. T. Knights:**

Right. So, more than a peppercorn rent but certainly nothing that anyone could retire on! The advent of competition has changed that significantly. The new operators, I guess because they have a requirement to build out their networks quickly, have changed the amount of payments. Now, I cannot say specifically what has been paid because obviously I am not a party to agreements that have been made. But I have anecdotal evidence that levels of payment have increased significantly. Not to £60,000. I have not seen anything of that sort of amount. But a few thousand pounds a year.

**The Deputy of St. Peter:**

If I ask for a broad band between one and 10 or between one and 5, what sort of area would you be playing in?

**Mr. T. Knights:**

I would say the highest would be less than 10 but more than 5. I think the £60,000 might be more to do with the way that the deal was struck. We have different ways that we can pay site owners. It depends on each site owner. Sometimes they want to have a longer agreement, say of the 9 year paper lease, and they can ask for a larger amount of money up front. Now it is possible that the operators are doing that with some larger annual payments but then bringing it forward and doing it with a lump sum. That might have led to some confusion. It is certainly not an annual payment.

**The Deputy of St. Peter:**

This is why time scale is important for you quoting figures.

**Mr. D. McDermott:**

But it is also important in that discussion to take on board the importance of sites, you know, where the majority of population lives and works around St. Helier. These areas are obviously going to be far more important to new entrants like Cable and Wireless and Airtel than somewhere up in L'Etacq. That will obviously play a part in any fees that are paid by ourselves and the other operators.

**Deputy A. Breckon:**

Can you tell us if Jersey Telecom has a policy for someone who writes to you about an installation, do you have someone as part of your corporate machine that deals with that and responds to it?

**Mr. T. Knights:**

Yes, we always respond and depending on the nature of the complaint we will carry measurement out using our test equipment and provide information to the people concerned. Recently we have done a

couple of quite detailed surveys of people's property and surrounding area and provided them with detail of the installation. So, yes, we do do that.

**Deputy A. Breckon:**

That would mostly be your own stuff, you would not monitor anyone else's?

**Mr. T. Knights:**

No.

**Deputy A. Breckon:**

There has been some suggestions that there should be a proximity between various things, whether it is hospitals, schools or residential areas. Do you have a code on that or have you been able to satisfy any concerns to date without the need for that?

**Mr. J. Rabaste:**

The suggestion I think was that there should be 300 metres clearance between a site and a school or residential area, broadly speaking. We modelled on our planning tool clearance of 300 metres from the schools that we know about and it would certainly be very difficult, certainly around the northern edge of town where there are lot of schools, to provide reasonable coverage if we were not allowed to go into those zones. It would impact on indoor coverage particularly. There are other areas where it would not be too good and I think we would get complaints also. If we tried to provide clearance of 300 metres from a residential area -- and this is where it is difficult to understand what a residential area is. Is it a single dwelling or is it when there is more than one house? If we take the significant ones we are aware of on our planning tool, if we had to provide 300 metres clearance from those, then I think it would probably be impossible to build a mobile phone system in the Island. Because of the scatter of houses across the Island it is very difficult to get clearance and have continuous coverage between the sites that would be possible.

**The Deputy of St. Peter:**

Where did this figure of 300 metres come from? Is it a figure that just appeared and therefore, because it has appeared, it is good figure to go for? There does not seem to be any scientific definition of this particular length.

**Mr. T. Knights:**

We do not, no.

**Mr. D. McDermott:**

We do not know where that figure came from.

**Mr. J. Rabaste:**

There has been some press speculation regarding this and the view that it was a precautionary approach. It does seem to be arbitrary figure almost because the ICNIRP figures we are working with, and which we comply with, are themselves a precautionary approach anyway. In fact the level likely to be experienced by the public, even short distance from one of our towers, is probably well within 1 per cent of ICNIRP. This would seem to be adding a layer of precaution on top of that also. We are certainly not aware of anything to substantiate this distance.

**The Connétable of St. Brelade:**

What would you say would be a precautionary distance?

**Mr. J. Rabaste:**

Using ICNIRP, depending on the type of site no member of the public where the sites are built can get within a danger zone because the sites are built in such a way that it is not possible to access within the zone, as Tim was explaining before.

**Deputy A. Breckon:**

Would there be any difference to your estimation if there was an overlap of other operator's cells? Would you be approaching what you would consider a dangerous or harmful zone?

**Mr. T. Knights:**

On a simple site where you have multiple operators then the signal levels will obviously increase. The approach that we have to take from Planning and from Health is that if you want to install equipment on an existing site then when you carry out your installation and you do your theoretical calculations you have to take into account existing operators. So it is done on a site basis not an operator basis.

**The Deputy of St. Peter:**

If there are 2 aerials emitting 5 watts a piece, is it a 10 watt output or a 5 watt output?

**Mr. T. Knights:**

In simplistic terms it is a 10 watt output but in practical terms, because the signals are not coming out of the same source, they are physically separated, you have then got to look at how the signals join together. Of course different operators use different frequencies and different frequencies have different characteristics and deteriorate differently over distance. So it becomes a difficult 3D (3 dimensional) model you have to provide.

**The Deputy of St. Peter:**

Can you clarify what you just said, that they reduce at a different rate depending on what -- I thought they reduced the square of the distance as a common factor?

**Mr. T. Knights:**

They reduce with the square of the distance but the rate at which they reduce is also related to frequency because it is the frequency divided by the distance squared. So whereas we use 900 megahertz for our GSM network, predominantly the Cable and Wireless and Airtel use 1800 megahertz, so it deteriorates at a different rate.

**The Connétable of St. Brelade:**

Can I ask with microwaves is it affected at all by atmospheric conditions?

**Mr. T. Knights:**

Yes. Microwave is a particular range of frequencies that is mainly used for communicating between base stations. We do not use microwave within Jersey for the mobile network, only for links off Island. Although we know the other operators do use microwave links to communicate between their sites. Certainly that is affected by the weather. The mobile frequencies are not affected quite so much.

**The Deputy of St. Peter:**

We seem to have some confliction in the term microwave, I think you would have picked that up from Friday. What is the technical definition of microwave? At what particular point on the frequency spectrum does it then become a microwave?

**Mr. T. Knights:**

Microwave is a particular range of frequencies. It is quite a high range of frequencies. I do not know off the top of my head what the actual spectrum range is but it is above 6 gigahertz. Certainly much higher than used by mobile.

**Deputy A. Breckon:**

Were you aware of a report produced by the Health Protection Unit in Jersey and there was a number of recommendations in there, I wonder, in general terms, if you would like to comment on that. I would like to do it in general terms, just how you see that and if there would be any difficulty in complying with that from your company's point of view.

**Mr. D. McDermott:**

I can confirm that there is no problem with complying with it at all. I think the report was quite good in that it took on board the international experience and the expert opinion that is available out there. If it had any failing it was that it did not accord a level of responsibility for implementation of its

recommendations. So while planning had to have somebody responsible for dealing with specific matters, if you go to the back of the report's recommendations, nothing has been done for other matters because nobody specific was responsible for doing it. I think that has become obvious over the number of months since its publication.

**Deputy A. Breckon:**

You have never been approached, since that report came out in April, to say would you provide more information or whatever? So somebody has made recommendations and they have never come back to you said: "Could you act on this?" or: "Could you supply this information"?

**Mr. D. McDermott:**

No, the only implication is on the changes to the planning process.

**The Deputy of St. Peter:**

When did you first have access to that health report?

**Mr. D. McDermott:**

When it was published.

**The Deputy of St. Peter:**

When it was published?

**Mr. D. McDermott:**

Yes.

**The Deputy of St. Peter:**

You were given a copy of that report?

**Mr. D. McDermott:**

Yes, when it was published. When it was made publicly available.

**The Deputy of St. Peter:**

On 6th April?

**Mr. D. McDermott:**

Yes.

**The Connétable of St. Brelade:**

Had you referred to the Stewart report prior to the publication of the health report?

**Mr. T. Knights:**

Very much so. We took on the recommendations of the Stewart report when it came out and the Stewart report was, and probably still is, one of the most important pieces of work done in this field so we took on board the recommendations and the Stewart report recommended ICNIRP compliance, we were already doing that.

**Mr. D. McDermott:**

Again, we were doing that in advance of incorporation on 1st January 2003 when it became an explicit requirement of the licence issued by the JCRA. So throughout the period of the telecommunications board existence, since the Stewart report was made available, it was from that point that we started implementing this.

**Mr. T. Knights:**

We took on board the ICNIRP recommendations before they were common practice. At the time the UK operators operated under the NRPB (National Radiological Protection Board) the UK Radiological Protection Board recommendations, they had higher power limitations than ICNIRP but we decided to take on board the ICNIRP recommendations.

**The Connétable of St. Brelade:**

Has the company any thoughts regarding electromagnetic influences on certain sectors of the population?

**Mr. D. McDermott:**

Other than complying with those high standards of obligations contained in Stewart, no. There is a lot of those raised in Friday night's meeting. This issue is covered in some of the other reports and it is not clear, based on what I have read (and I am no expert in this area) that effects noted are the result of mobile phone masts. I think it would be worthwhile asking some of the experts that are attending, like the guy from WHO (World Health Organisation) and the guy from the GSM Association, what their view is on something like that because they would be far better placed to answer.

**The Deputy of St. Peter:**

Just going back to the health report, when you received that health report in April last year, what were your thoughts on the recommendations that were given?

**Mr. D. McDermott:**

It did not cause us any issue.

**The Deputy of St. Peter:**

What thoughts, if any, did you have in actioning some of those recommendations that were in the health report?

**Mr. D. McDermott:**

Anything that was required for us to do we were doing anyway so where it required discussion with locals or where it required you to go through planning, we were doing all of that anyway. It did not require us to do anything other than deal with the change that was made to the process in place by the planning authority.

**Deputy A. Breckon:**

Although it said the States of Jersey should ensure that you looked at that, it was an upgrade that did not cause any problems and then you were waiting for somebody to contact you and say: "Could you do that?" and nobody did?

**Mr. D. McDermott:**

Yes, we deal first and foremost with things like that which is contained in our licence issued by the JCRA. This is something on top of that that. If it was to work it needs to be completed by a central authority that has responsibility or at least some control over all of the operators. Us coming along and merely issuing a map of Jersey with all of our sites on it, notwithstanding that we have done this, on a stand alone basis for Jersey Telecom does not really add much to anything because what people want to see is the totality of the sites that are in place. So that needs to be done, I agree. It has been done in other jurisdictions. OFCOM do it in the UK, the OUR (Office of Utility Regulation) look after this issue as the central authority in Guernsey, and in Jersey the same type of authority needs to take a lead in dealing with and implementing these types of responses.

**Deputy A. Breckon:**

Can I ask you, in your experience of the Jersey situation in planning, is it similar to the UK and elsewhere that you know of about the installation and the basic check, is that how this works elsewhere?

**Mr. T. Knights:**

I will be honest with you. I do not have any experience of the UK planning process. I am aware that the planning process was simpler in the UK. I think until fairly recently they were able to erect up to 15 metre towers within planning permission. That is why many of the towers in the UK are 15 metres. That is deliberately done. The first residents knew was when something appeared in their back garden the next day. But I believe that has now changed and there is now a requirement for the mobile operators to apply for all structures. I am not aware of the detail of those applications.

**Deputy A. Breckon:**

On the health issue, have any concerns been expressed to Jersey Telecom or has anybody instituted any proceedings against Jersey Telecom on any health issues relating to the installation --

**Mr. D. McDermott:**

Not that we are aware of.

**Mr. T. Knights:**

No, the only internal discussion has been as much for anyone that is working on the sites. We have a safe system of work in place for anyone that has to work near the equipment or near the antennas to ensure that they never are exposed to levels higher than the ICNIRP standard. We have an internal document that lays out our policy on how we comply to ICNIRP and our full safety system of work. That was sent out to all the staff.

**The Deputy of St. Peter:**

As you have stated, the ICNIRP regulations are fairly easy to comply with. I think we are all in agreement with that. Now, there is concern obviously that perhaps the ICNIRP is not as tight as it should be and that you can provide a network at a lot lower power levels. What are your views on that?

**Mr. T. Knights:**

You have to be careful not to confuse power levels with ICNIRP standards because ICNIRP does not really relate to the power levels of the sites. In practice it just affects the distance away from the site at which the public must not be exposed to. So you could have a site where you could lower the ICNIRP levels but the power level emitted from the site would stay the same. Take Bellozane chimney, for example, the public cannot get anywhere near the antennas of Bellozane chimney. So you can say: "Right, on that site we have levels lower than ICNIRP which would be quite feasible." But then there are other sites where you could get higher than the 1 per cent ICNIRP if you had multiples operators present in places the public can access and it could become difficult to comply to the lower than ICNIRP standards, depending how they were defined. I think that is a bit of a misunderstanding that the ICNIRP levels are extremely high. They are very low to start with. They are considerably less than what is even considered to be a safe level because the ICNIRP levels already have a 50 x safety factor.

**The Deputy of St. Peter:**

But the point I am making, it would appear that the industry, in a lot of the documentation I have read, suggests that to achieve the ICNIRP is not a very difficult thing to achieve overall.

**Mr. T. Knights:**



You have got to take it on a site by site basis. To give you an example, the typical ICNIRP distance from one of our larger sites with the larger antennas can be a horizontal distance of 8 metres. Now, 8 metres away from a site is a reasonable distance. If you start increasing that distance significantly then it will make some sites not viable. The more operators you have on the site the further that distance becomes.

**Mr. T. Knights:**

Without providing more masts --

**Mr. J. Rabaste:**

More masts or higher.

**Mr. T. Knights:**

Or higher.

**Deputy A. Breckon:**

As the technology rolls out, we have had 2G, 2.5G and now 3G, where is this going? Do you see that there is further expansion due to people's demands and technology? What is the future, do you think, in the next 10 years, is there a major change or this sort of fairly stable for that sort of time?

**Mr. T. Knights:**

There certainly is going to be a requirement for more installations, for more masts. The world is becoming more mobile dependant. Looking back 15 years ago you very rarely saw a mobile phone, now there is the expectation that mobiles will not only be used for voice, they will be used for lots of new things, TV, video streaming. With 3G now you already have video streaming. All of that requires far more information to be sent through the air. That requires more cell sites in order to be able to handle that information. You cannot get away from the laws of physics either. Even as technology develops we still have the same issues of sending signals through the air. So if you want a lot more information on your phone that requires shorter distances between the phone and the cell sites so you are going to require more cell sites, but I do not see a catastrophic change. I do not see suddenly the requirement of 200 masts for each operator in the Island. There is not going to be a step change but there will be a requirement for additional sites.

**The Connétable of St. Brelade:**

Has Jersey Telecom got a plan in place for the next 2 years, or whatever, to indicate the sort of mast requirement that will be needed to cover 3G?

**Mr. T. Knights:**

Yes, and we have also met with Planning. Planning insisted that we provided a report to them giving information of what we would like to do over the next couple of years and we have discussed that in detail.

**Deputy A. Breckon:**

Coming back to the health issue, as far as you are aware, apart from you have some policy for your employees, there has been no report of health issues to Jersey Telecom from the public relating to the installation and operation of telephone masts?

**Mr. T. Knights:**

None that I am aware of.

**The Deputy of St. Peter:**

Just 2 things. I can assure you it has not been started by us but you will be aware that there is a new review going on in the UK, I think it is over a 5 year period, which I think is led by Stewart as well. This is based on the recent concerns that have been put forward. What concerns do you have if it is found that the actual levels of so-called electromagnetic fog are causing health problems?

**Mr. D. McDermott:**

I think if an issue is uncovered it goes far wider than just Jersey Telecom, but to our knowledge there is no reason to suggest that strict compliance with the ICNIRP minimums would not ensure that all health concerns are adequately dealt with.

**The Connétable of St. Brelade:**

Just briefly, I think you would have probably followed in all the information that comes through the Salzburg Conference, who can give me an opinion on the outcome of that?

**Mr. D. McDermott:**

To my limited knowledge of it, it would result in mobile phones only being available outdoor. But outdoor coverage simply would not be good enough for the way mobile phones are used. I cannot imagine business people coming over being satisfied with this: the way that technology works is about a person having a phone and not just having a phone outside. So whether implementation of that would be acceptable I think would be highly unlikely. Also I do not think Jersey will ever lead the way, and I do not think it should be expected to lead the way, on any of these reports. I think as a small jurisdiction the best way forward is ensuring you take on board the best available evidence and expertise and follow the best practice that is put in place in other markets. That is how I think you ensure that all concerns are adequately and properly dealt with.

**Mr. T. Knights:**

Just to add to that, one of our keenest customers, is the finance industry and we work closely with them to ensure that they have coverage. If some of these companies do not have coverage indoors it is a major issue for them, which is why we work to ensure that by placing equipment on their buildings or even doing installations indoors we ensure that there is a good mobile phone service inside buildings as well outdoor.

**The Connétable of St. Brelade:**

Does this involve putting any additional equipment inside buildings?

**Mr. T. Knights:**

Sometimes, yes.

**The Deputy of St. Peter:**

Just a final 2 technical points, just to clear up for the record. You mentioned 102,000 subscribers, just to clarify, that is just purely Jersey Telecom subscribers and those that may now subscribe to Cable and Wireless, those are extra to that figure?

**Mr. J. Rabaste:**

Yes, that is correct.

**The Deputy of St. Peter:**

So we have a lot more telephones that we have people apparently.

**Mr. J. Rabaste:**

Yes.

**The Deputy of St. Peter:**

Right, that is just an observation. The other point is we heard reference made to macro sites and base stations. There is possible confusion in there because there is a base station, macro, micro and I now believe, pico. So what are we talking about? We can deal with the 2 smaller ones quite simply but the other 2, base stations and macro. What are they?

**Mr. T. Knights:**

They are all base stations. All mobile base stations basically do the same thing. They are there as access for the mobile customers to send and receive signals to the mobile phones. But there are different types of base stations. There are 2 reasons you would install a base station. One is to provide coverage

so that mobile phones can communicate - so you have a service. The best way to do that is with the so-called macro equipment. "Macro" just means large. The aim is to have a large cell so that you try to pick up as many customers as you can, so it is the higher power equivalent with the cabinet - the larger cabinet - and the large antennas. But each cell site - each base station - only has a fixed capacity; it can only talk to a certain number of customers at a time.

**The Deputy of St. Peter:**

So base stations are generic? None of these base station do you have the other 3 --

**Mr. T. Knight:**

Yes.

**Deputy A. Breckon:**

Thank you. What I will do just before I close is make the offer to you to say anything that you may think is relevant that we have not asked, or anything you might like to say in general terms, either in terms of Jersey Telecom or the operation of the system in the Island. It is over to you. You do not have to, but the offer is there should you want to do that. Following this hearing, if there is anything that you think is relevant that we did not ask or that might help with things we have touched on, then please feel free to submit that information. That offer is open to you, gentlemen.

**Mr. D. McDermott:**

I would like to say that since telecommunication competition has been introduced, the concerns of the public and their awareness have been raised. I think what has not been done, which is something that has been done in other jurisdictions, is the central independent authority taking a lead in making sure that the fears of the public were allayed, to some extent. We see it with OFCOM in the UK, like I alluded to earlier on, where they take a lead on ensuring, with independent audits throughout the year, that the operators do adhere to the standards and the obligations that are contained in their licence. These exact same issues that we are dealing with here were raised in Guernsey when Wave Telecom (a sister company of Jersey Telecom) launched its mobile network there. We went through the exact same process of concerns being raised by the public and we had to deal with them. Over there the OUR carried out its own report and its own audit of the emissions of Wave Telecom and of Cable and Wireless Guernsey and then put in place, on an ongoing basis thereafter, annual audits whereby they ensure that OFCOM carries out some tests in Guernsey as part of its work programme. It seems to me that that is a suitable way for Jersey to progress, such that the concerns of the public are addressed. It would ensure that it is done in a reasonable way without incurring a huge amount of time or expense, if OFCOM are required to do it as part of fulfilling their own obligations. You must remember that OFCOM have responsibility for spectrum in Jersey and the Channel Islands and in the Isle of Man: Jersey handed across this responsibility quite a number of years ago. But there are a few simple

things that can be done which should not be overly burdensome and should go a long way towards meeting the concerns that people are legitimately raising. It is a lack of knowledge and a lack of understanding which invariably leads to a lot of the things that you are hearing during the public meetings and this must be dealt with.

**Deputy A. Breckon:**

Anything else? Can I just close. Thank you for your time and effort and the way you have addressed us. That has been really helpful. As I said before, if there has been anything that has been raised that you would like to come back with some more information, please do. Regarding the transcripts, what will happen is that in a few days you will get a copy of these. If there is anything which is incorrect or you would like to give some attention to, please do. After that, they will be published and they are a matter of public record. We will adjourn now.