

Health, Social Security and Housing Scrutiny Panel Telephone Masts Review Sub-Panel

FRIDAY, 19th JANUARY 2007

Panel:

Deputy A. Breckon of St. Saviour (Chairman)

Senator B.E. Shenton

Deputy C.H. Egré of St. Peter

Connétable M.K. Jackson of St. Brelade

Mrs. C. Le Quesne (Scrutiny Officer)

Mr. M. Orbell (Scrutiny Officer)

Witnesses:

Mr. B. Trower (Scientific Adviser, Radiation Research Trust)

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

Welcome to you, Mr. Trower. What I would like to do is just give you some background to why we are here and how we come to be here. We are part of a sub-panel that was set up under the Health, Social Security and Housing Scrutiny Panel of which I am the Chairman. My name is Alan Breckon and I am a Deputy of the States of Jersey. Deputy Collin Egré is the Deputy Chairman. Constable Mike Jackson of St. Brelade is a member, as is Senator Ben Shenton. I will just touch on the procedure for this hearing. I understand you may be aware of our terms of reference but I will just go over them for you first. We operate within a structure of the standing order of the States of Jersey Law which gives this hearing certain privilege and immunity from legal protection. I will explain that to you in a moment or 2 and Deputy Egré will read that to you. As I said, we were set up under the Health, Social Security and Housing main panel, as a sub-panel, and the terms of reference are that: "The sub-panel will consider the concerns of the public relating to perceived health implications as a result of the increasing applications for mobile phone mast installations following the recent expansion of 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. This is the first hearing that we have had. We have 3 days of hearings next week. What we have done today, I should say, is that normally we would have run next week but as you were in the Island we have convened this specially today for you because we are not there to impede anybody, we are there to hear all views and opinions, whatever they may be, and I say that with respect because I do

not know what your views and opinions are. In a moment or 2 I will ask you to give us some information on that. I think that provides the background. I think we have established contact, so after today the procedure is that this will be transcribed, you will get a copy of the transcription. If there is anything in there that you realise is factually incorrect you will be given the opportunity to correct that. Within a period of about 7 days it then gets published and is a matter of public record but you do have an opportunity to do that. If there is something that you are not sure of and if there is anything you think that may be confidential that you would not like to reveal in a public nature then we can adjourn and go into private session where you will be given the opportunity to do that, should you so wish. So that is an option as well that is open to you. That is really the procedure but I will just ask Deputy Egré if he could advise you of the statement which should be in front of you somewhere as well.

Deputy C. H. Egré of St. Peter:

Thank you, Mr. Trower. We are going through the formalities, I am afraid. I am required to read this to you so please bear with me. It is with regard to witnesses who are not States Members and it states: "It is important that you fully understand the conditions under which you are appearing at this hearing. The proceedings of the panel are covered by parliamentary privilege through Article 34 of the States of Jersey Law 2005 and the States of Jersey (Powers Provision Immunities) (Scrutiny Panels, PAC and PPC) Jersey Regulations 2006. Witnesses are protected from being sued or prosecuted for anything said during hearings unless they are 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 when giving evidence 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 your questions. As you have been told, the proceedings are being recorded and a transcription will be made available on the Scrutiny website."

Deputy A. Breckon:

Thank you for that, Collin. What I would like to do now is proceed and we have a series of questions, some of which I believe you may have had advance notice of but that is not to say that they are cast in stone. Perhaps it may be more useful if you would like to tell us what you would like to say and then we may well have questions arising from that, if you feel comfortable to do that.

Mr. B. Trower:

If I talk for half an hour and then leave you half an hour, is that fine?

Deputy A. Breckon:

That is fine, yes.

Mr. B. Trower:

I have not read your questions, by the way. I prefer not to.

Deputy A. Breckon:

The only thing is we do have the recording equipment so if you can be conscious of that so that it can all be recorded and transcribed.

Mr. B. Trower:

I am often recorded and filmed so I am used to that.

Deputy A. Breckon:

Please proceed in your own time.

Mr. B. Trower:

Could I tell you where I am coming from so you know exactly who I am. I am Barrie Trower. I am the Scientific Adviser to the Radiation Research Trust. I report to Dr. Bell who runs the Radiation Research Trust and he, along with a few other scientists that he asks, then reports to Sir William Stewart. In the 1960s I worked with the Royal Navy Underwater Bomb Disposal Unit which used microwaves. In the 1970s, during the Cold War, I debriefed spies for 11 years that were trained in stealth microwave warfare. Following my knowledge in microwaves, I was commissioned by the Police Federation of England and Wales to write the *TETRA (TErrestrial Trunked RAdio) Report*. Sometimes, when I have time, I teach advanced physics at my local college and I tend to be in quite a lot of demand now because of my knowledge in microwaves, not because it is my research area. I just seem to be the person everybody keeps turning to. I am absolutely independent; I have never ever accepted a penny from anybody for what I do. I will not even let the Radiation Research Trust pay me. Nobody can say to me: "I am paying you, leave this out or put this in." I have no ties with anybody. I do not belong to any organisation. Shall I begin, Sir?

Deputy A. Breckon:

Yes, carry on, please.

Mr. B. Trower:

Thank you. The main problem I find anywhere in the world is that councils and governments, as soon as they start talking, they quote the ICNIR (International Commission for Non Ionising Radiation) certificate to me and they will say: "All of our masts are ICNIR compliant" or "We follow the ICNIR certificate and therefore it is legal." In fact, it is not and I can honestly say that wherever I have been in the world I have yet to find anybody who is making a decision in this area that has taken the trouble to sit down and read it. If anybody did sit down and read it they would find that at the back the ICNIR certificate says it is a general guide only and it requires decision-makers to review current scientific

literature and determine appropriate reduction levels. Nobody has done that and nobody quotes it but what I believe should be happening is that committees look at recent research papers that have been peer reviewed and published, then say: "This is the level that has caused this; this is the level they recommend; this is the level we could adopt" and there would be no problem. Now, I will not go through this. I have brought 20 research papers with me and details of 25 other studies. I will mention just the titles of some of them but they are all recent research papers, all showing that if you use phones or if you live near microwave transmitters some people will suffer because of the microwave irradiation. Just to mention some of the papers. You have the *ECOLOG (Comment added later: I'm not sure what the letters stand for and I can't seem to find anybody who knows) Study*, which was T-Mobile's study in Hanover. They studied 220 peer-reviewed papers. That is peer reviewed, written by professors at universities, peer reviewed by -- for instance, when I wrote the *TETRA Report* for the Police Federation it was sent out to 5 scientists to peer review and clear. Their conclusion of the 220 peer-reviewed papers was electromagnetic fields at this frequency do play a role in cancer. I will just run down some of the papers. In Athens they removed 10 masts as they posed a threat, in their opinion, to human health. Again, in Colorado, State University has done the same. Professor Hallberg and Professor Johansson believe electromagnetic frequencies of this frequency to be the environmental factor relating to skin cancer and other illnesses. They published their report in the *Australasian Journal for Environmental Medicine* and one of the things they found, which other papers have found, is that women suffer more than men because of the disruption to the hormones. It is women, children, the elderly and the sick, in that order. A Spanish study was completed by 4 universities. They list 13 illnesses that people can contract around masts and the level that the people found they were becoming ill at was 10 million times below the ICNIR certificate. The *Reflex Study*, the European Union, Switzerland and Finland, over the 3 countries, they employed 12 university laboratories and they found low level microwaves cause DNA strand breaks. I wrote a paper and presented it to consultant oncologists showing how DNA strand breaks can lead to cancer, and other papers have also published that. There are lots of papers here, I do not have time to go through them all, and they all show a 3-fold increase, some a 6-fold increase in cancers around masts. The main paper here, Professor Cherry was asked to present this paper to 5 parliaments - New Zealand, Italy, Austria, Ireland and the European Parliament - and, again, he lists all of the illnesses that a lot of people experience and I will run through the illnesses. I will only cite once but all of the papers come up with the same; it is the same story. Starting with ladies, it is usually headaches, tiredness, sleep problems, itchy skin, vaginal discharge, palpitations of the chest, irritability, change of personality, depression, suicidal tendencies, then the immune system starts to suffer and if you are prone to something you get it worse. You get more colds, more coughs, longer colds, longer coughs, and at the very end of the line a lymphoblastic leukaemia or cancer. Professor Cherry has listed all of these and he has set a standard for the 5 governments here on the last page. I am informed that the standard for Jersey is 3,000 times above the standard that Professor Cherry has set as a safety level. Incidentally, the Spanish study found illnesses and recommended a level of radiation 300,000 times below the level that is in your paper for Jersey, which is 0.3 watts per

metre squared. The most recent study which is the Egyptian study, they found neurological illnesses 15,000 times below your level. Professor George Carlo, probably one of the leading professors in the world, certainly America, was employed by the industry to really do a safety review of phones and masts. He employed 200 doctors; he used 28.5 million dollars; he studied for 6 years; and he found, after 15 epidemiological studies, that the masts and the phones will lead to cancer. That was the industry study; not mine; not anyone else's. The industry refused to publish the details and Professor Carlo went on to publish it anyway and he has put it on his Net and it is available. He is over here. I have a meeting with him in a couple of weeks because we are talking to the Irish Parliament in February. I know he is over here and he is travelling and he is easy to get hold of. I spoke to the National Assembly of Wales not so long ago who voted 41 votes to nil to curb the power behind this industry make planning permission compulsory and reduce levels. There are copies of this on the Web. This is my address to the Welsh Assembly: I am reading from it. The National Assembly of France have 20 proposed new laws. I will only read 4 of their proposals: i) to reduce the ICNIR certificate by 1/9000th; ii) to have exclusion zones of 300 metres from houses and sensitive buildings; iii) planning permission compulsory for all equipment; and iv) to absolutely forbid mobile phones in schools. This is a document from our own Parliament in Westminster. MPs have tried 4 times to bring about limits, unsuccessfully, to the mobile industry. They have quoted or cited 4 cancer clusters within half a mile of transmitters. In each cluster there are 11 or more children under the age of 11 with leukaemia. They are also saying, with their privilege, that they find the industry lies; they find that the industry is deceitful; and they find that there is no co-operation between the industry and the public and planning committees. This has been in Parliament 4 times and I have written about it in my papers which are available. I can leave you copies of my research if you wish. This is the document by the International Association of Fire-Fighters, and nobody will ever convince me that the International Association of Fire-Fighters are stupid or easily scared into something. They have asked their governments to refuse telecommunications microwave systems, like TETRA, anywhere near their fire stations and on page 7 they cite the reason, saying: "Many fire-fighters who are living with cell towers adjacent to their stations are paying a substantial price in terms of physical and mental health." They have found that their response times are slowed down. TETRA was advised against by Sir William Stewart because of its pulse frequency. The pulse frequency of TETRA and some of the other systems can cause entrainment and confusion in the brain. *The Ecologist* published an article and I do know, or I would not quote her, that the lady that wrote this has a reputation for honesty and checking. She writes concerning the mobile industry: "You will hear statements by supposed experts, always the same few in the pay of the telecommunications industry, to the effect that cell phones, cell towers, microwave radiation, have been proven safe in countless studies. It is an easy lie, one that the news media have been eager to propagate. Such studies do not exist; quite the contrary. It has been shown that, just as for X-rays, there is no safe level of exposure to microwave radiation." This was endorsed by Michael Meacher, Minister of the Environment, who wrote a letter, and it was published in the *Times*, which I have here. He said that - and I am ashamed of this - our government will only offer payments to universities that will prove

favourable results to the government and the industry when they investigate microwave illnesses. He said the government is misusing science for its own ends. That was repeated by Henry Waxman and published in *Scientific American* where he said the same thing, that the American Government will only listen to the industry and use universities that will give favourable result. It was also borne out by, and I have the study here, an independent Swiss study which looked at all of the research carried out by the industry and found that it was biased in favour of their results. The leader of the World Health Organisation, a lady by the name of Gro Harlem Brundtland, developed electro-sensitivity and resigned. They then told her that she was mad and she wrote an article called *No Place to Hide*, saying: "I am not mad. I do suffer from electro-sensitivity. Here it is." The *Freyberger Appeal* has been signed now by many, many thousand hospital doctors and consultants and it is a note to all of the doctors in the world because doctors are not trained to recognise electro-sensitivity. Roughly 3 per cent of populations are electro-sensitive, which is 2,500 people on this Island. We know that 2,500 on this Island will suffer regardless and will never get better. This is the note from the *Freyberger Appeal* to all of the doctors to try and recognise all of the symptoms as they come flooding in. Finally, gentlemen, there are legal cases. Professor Wolf-Dietrich Rose has won 3 High Court cases; I have the case number here. He showed in the Austrian High Court that people who live around masts do get cancer and suffer from all of the other illnesses and he has won his case 3 times. He is an expert in telecommunications. There is also a legal case in America - where a person proved that the mobile phone did cause a brain tumour. Finally, gentlemen, one problem that really niggles me. There is a solution to this but there is a problem first. I attended a meeting in London fairly recently. I was invited to speak to a body of money investors who came over from France and I gave a lecture at the bank in London. The industry were there to represent themselves and the one thing that came out was that the brokers, on behalf of their stockholders, could not get out of the industry that there was indemnity for people who are claiming illness from masts. Their argument was that if there is no indemnity for people becoming ill and lawsuits become successful, then it falls on the stockbrokers, the share investors - I do not understand money, I am sorry - and the shares will crash. The final part from that meeting was that the industry absolutely refused to commit themselves about who is responsible. If a mast goes up, if there is a childhood cancer cluster and it is shown in your court that the mast is guilty - and I do not know whether it would or not - who can be sued? Is it the landowner? Is it the industry? Is it you? Where is the piece of paper that says that and, more importantly, where is the insurance company that covers the indemnity, because to my knowledge, on the advice of Lloyd's about 8 years ago, they all wrote exclusion clauses covering their backs. There is a solution to this, quite a simple solution, that will work for everybody if you adopt the Salzburg level of radiation. Salzburg had 19 of the world's top scientists to a conference. They agreed on a level for microwaves. The only problem is with that level mobiles will work outdoors, which is where you want them. If there is a road accident or your car breaks down you can ring the AA or the ambulance; everything will work outdoors. They will not work indoors. You will have to use a landline indoors. Children cannot lay on their beds texting their girlfriends or boyfriends or whoever. They would have to physically pick up a telephone and talk to people. The signal is too weak to work

indoors but even the electro-sensitive people can survive in that environment and it works for everybody. The only reason I can think of that it is resisted is that it is less profit. You cannot download films, the Web, documentaries, the news, you cannot download all of that because there is not the system to do it. But there is a way out and it can work and you need not subject 2,500 of your people to what is really a food allergy coming through the air as an invisible force for ever. Thank you for your time, gentlemen. Thank you for your courtesy.

Deputy A. Breckon:

Can I say please do not feel restricted by the clock, because that is not the case.

Mr. B. Trower:

Your questions are usually better than anything I could say.

Deputy A. Breckon:

Thank you for that judgment call you have made before we have actually asked them. Can I just say thank you for that. We may indeed ask a number of questions of you but what we would do as well is give you the opportunity at the end to say anything you so wish arising from the questions or something you feel you may have omitted to say. Can I thank you indeed for the very comprehensive and precise coverage. You got through a lot of material in that half an hour. Although we will pick some of that up from the tape, you referred to a number of documents. I did not introduce Carol Le Quesne and Malcolm Orbell at the start but they are generating the information, the bundles of paper. If we could have those contacts then we would like to read some of those documents in full, if you so agree.

Mr. B. Trower:

I have brought you a set of documents. I have brought you a copy of my address to the Court of Appeal, my address to the Welsh Assembly, my research paper to the oncologists. I have brought you several papers which I can leave and they are copyright free.

Deputy A. Breckon:

Can I say that if there is any expense in there we will be pleased to reimburse you.

Mr. B. Trower:

I do not charge, Sir.

Deputy A. Breckon:

That is an offer and I should say that. There were 2 issues that I would just like to touch on, something you mentioned. You may or may not be aware that in Jersey on 8th January the Planning Minister removed the moratorium that had been in place for about 6 weeks and he granted 26 permits. They were

of a temporary nature in that they are conditional for 12 months and that condition is attached to the findings of this sub-panel's review. What he said is if we are not able to make anything that changes the situation then after the 12 months they would be as an ordinary planning permit but if there is something that we produce that makes them reconsider then he will bear that in mind. So that is really where we are with the planning issue. The only other thing, as I say, was the detail of the papers you have got and if we have got a contact to establish we would appreciate that. Ben, are you happy to ...

Senator B.E. Shenton:

You mentioned quite a few studies, Professor Cherry and so on. Why is it that governments world over have failed to do anything on this issue if there are these strong concerns? It is very difficult to find any nation or any government that has really done anything concrete with regard to this issue.

Mr. B. Trower:

I have spoken right around the world on this issue, Sir, and I can only give an opinion. As far as the British Government is concerned, why they are not doing anything - and this is an opinion - this industry is worth, with selling off the airspace at 25.5 billion pounds a time and taxes and everything else that comes, this industry is worth £100 billion to the government. Most governments cannot afford to let this industry fail because the governments need the masts. The government also uses the masts for its eavesdropping. I gave evidence to the Greek Government in the recent case where the Prime Minister was bugged. The government needs this set-up because when you have terrorists wandering around they can monitor them and listen to them and pin point them. This system is a gift to the governments. The military also use the masts for missile defence systems. The government has money, missile defence systems; it can eavesdrop. These are multi-purpose benefits that a government could only dream of. The government really wants to stay on the good side of the industry. The other problem is mobile phones were never tested. It is only since they have come out and the masts have gone up that the problems around the world have started to appear. The government has really shot itself in the foot because for £50 million it sold off the licences and it cannot now go back and say: "I am sorry but you are upsetting us. We want to reduce your power/ profits a little." I think the government is in quite a sticky mess and does not know how to get out of it. If you look at a recent food scare, a tiny, tiny piece of cancer causing dust that may or not have been in curry, and they cleared all the supermarket shelves overnight. If this were food or anything else it would be dealt with but I really do not think the government can do anything about it as we are. I do know that I give recommendations to Dr. Bell who gives recommendations to Sir William Stewart, who is reported to be very worried. As I say, 4 times this has come up in our Parliament, leukaemia clusters, in response the Minister stands up and says, "We have our own scientists. They will deal with it. Thank you very much" and sits down. The government scientists are only directed to look at heat, that is all. Provided you are not getting too warm, the mast stays. So the government is not responsible; the government scientists only have to look at heat. The industry certainly is not responsible. So there really is nobody in England to take legal liability and the

only reason why I think the government are getting away with this - and it is a horrible thing to say - is I can only assume that 3 per cent of the population, 1.8 million people, is not worth £100 billion.

Senator B.E. Shenton:

But surely the governments world over must be aware that if the research is right they have a future massive liability?

Mr. B. Trower:

The government scientist, the NRPB (National Radiological Protection Board), now the Health Protection Agency, was only required to look for warmth, that is all, and if you are not getting too warm from a transmitter there is nothing else that they are concerned with. They are not concerned with the long-term low-level electric and magnetic effect of the wave. They are not concerned. If you ring them up all of their guidelines are based on heat and that is all they will acknowledge. I do not think they can change it now. If they suddenly came up and said: "We are sorry, all of these leukaemia clusters seem genuine and all of these reports have ..." When masts first went up, a lady scientist studied 14 masts. They found 92 cancers above what would be normal. The average age, I think, was 26, of the people. That triggered all of the other studies. Holding the government responsible, you would never get them to court and you would never win. You just cannot do that. Nobody has enough money to take the industry and the government to court but any way they dissolve their responsibility in England on to the landowner. So you would sue individual landowners. I really do not know. I cannot understand when we get these reports of cancer clusters and they come in from universities all round the world - there are for instance 2,700 disputes in Taiwan, there were 192 deaths in Israel around just one mast and the locals went and pulled it down - every country in the world is having this fight against the industry but nobody seems to be able to take them on and win, certainly not in England.

Connétable M.K. Jackson of St. Brelade:

Can I ask in your research have you done any analysis on the response of the industry to the findings you have had? Clearly there are a multitude of operators, each with their own access to research.

Mr. B. Trower:

Yes, Sir. The industry cover research and publish it. Now, if we look at a recent Danish study. They studied people with mobile phones over 20 years and there was a big announcement over the radio a couple of months ago that they have studied everybody with mobile phones for 20 years and there is no more likelihood of cancer than if you did not have one. When you look into this study it has been internationally disgraced and the people that have disgraced it publicly, the scientists, they found that from the study first they eliminated everybody that used a mobile phone for work, because it was not normal use; they eliminated everybody that had a pay-as-you-go phone; they eliminated everybody over or above a certain age. When you got rid of everybody they eliminated, they based their statistics on

just 16 per cent of the population. It was also found and published by Professor Carlo that 4 of the main people in the study worked for the mobile industry and one of the scientists used to work for him and found a 3-fold increase in cancers but once the statistician had been to work it had come out as no cancer. So it is very, very hard to find a research paper that is independent that shows there is no effect. I have not found one and I do not know anyone that has.

The Deputy of St. Peter:

Mr. Trower, the study you have just described, whose study is that? What country was it?

Mr. B. Trower:

It is the Danish study on mobile phones.

The Deputy of St. Peter:

That is all I need to know, thank you. You did quote when you were talking earlier about this percentage of Jersey population that would be 2,500 people and you used the word “will suffer”. Are you happy with the word “will” as opposed to “may”?

Mr. B. Trower:

I am happy with the word “will” and I will tell you why, Sir. Switzerland surveyed everybody living around masts and they found that just over 3 per cent of the population were allergic, if you like, to these microwaves - these are microwaves not radio waves - given out by the transmitters. Not only did they find that but they recognised it as an illness and they treated it. It is also treated in Salzburg. The Southern Irish Doctors Association, who are Nobel Prize winners, found that above 3 per cent of Ireland are electro-sensitive. In California in their study they found 3 per cent of the --

The Deputy of St. Peter:

Can I just interrupt for one second? Sorry to interrupt your flow but you mentioned 2 forms there. You were talking about microwaves as opposed to radio waves. Can you just break that definition down for me?

Mr. B. Trower:

Yes. All phones and all of these transmitters they are all microwaves, not radio waves. The industry uses microwaves because they are more penetrative. Radio waves with phones would not penetrate the building. They are all microwaves, as laid down by the International Commission. They are described as radio waves. When they come along to a farmer and say: “Could we put up a mast here? It is for radio waves” it is actually not. They are all microwaves. The International Commission specified anything above 300 MHz (megahertz) is a microwave and microwaves react very differently to our water-based bodies than radio waves.

Senator B.E. Shenton:

Can I just ask whether digital TV is microwave as well?

Mr. B. Trower:

TVs ... there are several studies. Can I finish the gentlemen's question first? California have found 3 per cent of their population are electro-sensitive and Australia have found 3 per cent of their population. So you could safely assume that if 4 countries in the world have found above 3 per cent and one of them treats it, then you could be correct, I would argue, in saying there is better than an element of doubt there that all countries are going to have 3 per cent of the population electro-sensitive.

The Deputy of St. Peter:

Still on the same topic, you talk about the electromagnetic sensitivity and also you indicated in what you told us earlier on that it was very difficult to diagnose or GPs are not familiar with how to diagnose it. What confusion, if any, could there be in dealing with the symptoms that you have described which could be confused with other environmental hazards or even social issues and pressures?

Mr. B. Trower:

You are absolutely right, Sir. The overall effect from long-term low-level microwaves is a general reduction of the immune system. Now, it may be that if you are a mechanic and you are breathing in fumes all the time it may just weaken your defences against asthma and you would go to the doctor complaining of asthma and be treated for asthma. It is not as simple as saying: "You have got this, those are causing this." They will probably weaken you to the point where something else may cause you to suffer more. This is why doctors are having a lot of trouble diagnosing it.

The Deputy of St. Peter:

One of the difficulties that I see is that we have, I think it has been described as, an electromagnetic fog which causes a problem in its own right but also we have very many other issues, with packaging of food, with chemicals that are put in food, with chemicals that are put in the ground, which would appear to be able to give similar effects. Could there be some confusion in the statistics that are provided in what you are saying the number of people who suffer in the way they do could be tied to some other agent?

Mr. B. Trower:

There could be until you look at the statistics all around the world where roughly between 3 and 6 per cent of populations around masts suffer with the same symptoms in the same places in every country. In fact, Dr. Walker carried out a study which was replicated in Israel and it is a scary study. He found that if you put a mast somewhere, if you concentrate on where the main beams of the mast fall, he can

pinpoint the houses where the people are likely to get leukaemia. He can say: "In so many years time, if they do not move, the leukaemia clusters or the illnesses are going to be there." He can pinpoint the places. What they did is they went back; they looked at doctors' records; they found people go to the doctor more. They looked at the doctors' records, they found where a lot of people went complaining of lots of different things and they found that these were the groups in these isolated spots. He has published his research on the Web, and I believe Israel has as well and it is in every country. But you are right, Sir, people who are electro-sensitive do tend to be sensitive to other things and it is a conglomeration that gets them in a lot of cases.

The Deputy of St. Peter:

The comment I would make, in your view - you have almost expressed it - which comes first, chicken or egg? Can the opposite happen where because of some other agent you become more susceptible to EMF (electromagnetic fields)?

Mr. B. Trower:

We know that people who sleep within a certain distance of a mast their night-time melatonin level is down 47 per cent by the morning. To explain that, Sir, as we are now, light is going through our eyes and the pineal gland in our brain knows it is daylight and it prevents a substance called melatonin going around the body which, among other things, repairs the immune system. Now when you sleep in a microwave field, because microwaves are penetrative, they still pass through the brain. The pineal gland gets the electrical current going through the brain and it still thinks it is daylight and does not produce as much melatonin. So we have found that people sleeping within a microwave field near a mast lack 47 per cent of their night-time melatonin. Now, when they wake up their immune system is 47 per cent less effective. Over a short period of time that will not have any effect. It depends on your fitness and what else you are prone to but over the months and the years if you are prone to something you may get that first, then develop the electro-sensitivity. It is the chicken and the egg. We do not know. Unlike a drug firm where they have to do studies for 10 years and monitor things, nothing was done. Mobile phones were launched and then they started looking at the illness that came in and started denying them, and they are still denying them. It is a very brave organisation and rich organisation that can take this company to court.

The Deputy of St. Peter:

Just one final question before I move on. One of the concerns that I have certainly had in listening to what you have been saying is this level of independence that sits in the agencies that are looking at this problem within the UK, and I refer to the World Health Organisation and the HPA (Health Protection Authority). What level of independence, if any, do you think exists in those 2 organisations?

Mr. B. Trower:

I am choosing my words carefully, Sir. I do not have a computer but I know if you go on to the Web, and I do have a document I believe here, the World Health Organisation has been heavily criticised for accepting money from the industries. When I say “industries” I mean the nuclear industry, the electricity-generating industry, the mobile industry. There are investigations underway for the gentleman, Mr. Repacholi, who is believed to have accepted money, and I will stress they have not been proven.

The Deputy of St. Peter:

Sorry, Mr. Repacholi?

Mr. B. Trower:

He was the head of the World Health Organisation. There is also an investigation underway that the World Health Organisation, when it drew up its safety levels, and they looked at the people on the panel, they had links to industry. Those have not been proven but they are suspect.

Deputy A. Breckon:

You have raised some very interesting points there. I wonder if I can ask you a question about proximity and if there is any scientific evidence that you have to prove that mobile mast emissions represent more danger to human health as a result of proximity?

Mr. B. Trower:

Yes, Sir. If you said to me: “We have an ordinary microwave transmitter. How far should somebody be from it?” We are talking a cumulative dose from many transmitters - generally 500 metres. If anyone is closer than 500 metres there is a body of evidence that says that is wrong. I refer to the research papers I quoted where some of the research scientists drew lines of 100 metres, 200 metres, 300 metres, 400 metres, and independently on these studies they found that at 100 metres all of these illnesses came up at this particular time; at 200 metres people developed this; at 300 metres this; and they found that at 400 metres the figure they gave was people tended to go the doctor for symptoms they would not normally go for 8 years earlier in general.

Deputy A. Breckon:

In general terms, the type of mast - because, as you know, there is a variety of things - what about the town and country versions where there are smaller versions around the town, is there any evidence to say that is relevant where there is intensity in built-up areas?

Mr. B. Trower:

No research has been done, Sir, on micro masts. You mean when you have them in shops and in pubs? I think it would be incredibly difficult to do research because if you have one in a shop or a pub people

do not stay there. The only research I can quote to - and it is in one of my research papers which I will be giving you - is in my address to the Welsh Assembly there is the website of everything I said here. When they put transmitters in schools or near schools there is research from over 100 schools where when long-term low-level microwaves were introduced in or around schools, they found cancer clusters occurring. I know in France, not far from here, one school had an incident cluster of 6 and the mast was ordered down by a judge. But they found that breast cancer increased enormously by the teachers; leukaemia increased by the children; there were more headaches, more sickness, personality of the children changed. All of that information is on a research paper I wrote. That is the only thing I can cite. There just is not the research at this point in time, Sir. It is a very new science and nobody has thought of it.

Deputy A. Breckon:

I wonder if I could just ask you to expand a little bit on that and the duration of some of the research that you have undertaken and how recent it is. This is something that has obviously been a lifetime of work, really.

Mr. B. Trower:

Absolutely, Sir. I will just look at these pieces of paper here. I get sent research papers by Dr. Bell who is in charge of the Radiation Research Trust. I read them - and I say this with greatest respect to everybody - I put them into what I call Janet and John and then I send them back. This research which I have just done for Dr. Bell is dated 18th July 2006. It was finished 20th October 2005 and then it was peer reviewed and it was published 18th July 2006. To sum up, they studied the residents living in a block of flats that had a mast on the roof and the residents a long way away in a similar block of flats without a mast. They picked blocks of flats with identical, as near as they could, residents, same work patterns, everything else. Their conclusion was that the residents in the flats with the mast had to go to the doctor more with neuro-psychiatric problem, namely headaches, memory changes, dizziness, tremors, depression, sleep disturbances and neuro-behavioural functions relating to performance. The level of radiation they were exposed to, if you are - as I saw in a document here, I think - allowing 0.3 units, this was 3,000 times below what is reported safe for this Island. That is one research paper. I will only quote 3. This paper here, which is published in ... I am sure it is 2006. I cannot find the date on this one but I know it has only very, very recently been sent to me. I know it is a very recent one. In this one, they reproduced the government's experiments for heads for mobile phones. When the government, NRPB, tested how mobile phones would affect the head, they reproduced the experiments with a better designed head and found that the government were wrong. They found the government's level, which determines the specific absorption rate, they found it was totally wrong and they also found that the government used the same absorption rate for children., without realising that children have much thinner skulls, the immune system in the brain is not developed, so you are bashing an immune system that is not developed. As I say, the children's level was based on the adult level, which was

wrong, and they have basically rubbished the initial government report. Finally this one here. Again, this was only sent to me a couple of weeks ago; it cannot be that old - 17th August 2006. This found that the electrical circuitry developing in foetal animals - something which I do not agree with, but I cannot do anything about it - they found that when pregnant mammals were exposed to the same exposure that you would get from a mast, there were problems with the foetus. Now, this was a short term exposure, but they published it saying that there was foetal damage with the equivalent dose for mammals. So there is the recent research.

Deputy A. Breckon:

I wonder if you are aware of the report that was prepared in Jersey in April 2006 for the Health and Social Services Minister, *Health Protection*, on the mobile phones and health, and it was about mobile phone base stations. You are not aware of that?

Mr. B. Trower:

No. I may have read it. To be honest, I cannot remember.

Deputy A. Breckon:

I would suggest that perhaps we could let you have a copy of that, and maybe you would like to comment as an addendum, if you like, to this here. The reason I said that is it has a certain number of recommendations in there; what I would like to ask you is what measures that you would like to see or believe that Jersey as a government should put in place?

Mr B. Trower:

Only one, Sir. I can sum it up in one word, and I say this to all governments or councils, one word. Give people "choice". Simple as that. Call a symposium of the world's experts or invite the world's experts to write 500 words. Give the industry or somebody representing the industry the right to put their point of view forward, 500 words. I am not trying to stop this system; the only reason I do this is because I feel that democracy has totally broken down. Say to the people this is one point of view; there is their evidence. This is the other point of view. What would you like us to do? Would you like the limit to be this, this or this? Would you like an exclusion zone of here, here or here? Whatever the people decide I do not have a problem with.

Deputy A. Breckon:

Could I press you on that, then. You would like a factual debate on that rather than perhaps as you may see it that somebody has bought their way into the market. Would you be as bold as that?

Mr. B. Trower:

I would call a symposium of any experts you like. I would have it documented for the public or filmed for the public. Limit the speakers to no more than 20 minutes or 15 minutes. Have a newspaper publish the salient points. Have a referendum and say what would you like. If everybody says: "We really want a mobile phone. We love them so much we want to take them home to bed with us", I do not have a problem with that, provided the people want it. But if they say: "We would like this and this and this until more studies are done", then that is where it stays until more studies are done. I do not want to get rid of the phone system; I think it is brilliant. But I think it could be brilliant and safe.

Deputy A. Breckon:

Would you say that perhaps in Jersey we need to have that informed debate?

Mr. B. Trower:

A lady rang me up - and you will have to take my word for this - not so long ago, and I have her telephone number with me and you can talk to her, and she said: "My daughter has just died." I said: "I am very, very sorry." She cried and cried and cried, and we went on. Then she said: "My daughter is number 12 around this mast. What can I do?" I have to say, you know, nothing: "There is nothing you can do other than talk to your MP or somebody." When you get phone calls, they affect me. This of course affects me, I am sorry.

Deputy A. Breckon:

It is okay; take your time.

Mr. B. Trower:

When you get these phone calls ...

Deputy A. Breckon:

You cannot do anything about it.

Mr. B. Trower:

I do not believe that all of the money in the world is worth that one phone call. I would say let us protect this one person, and we will make the industry stand back until it is safe for everybody.

The Connétable of St. Brelade:

Can I just ask a technical question. I was reading the French guidelines, the departmental guidelines.

Mr. B. Trower:

Yes, Sir.

The Connétable of St. Brelade:

They mention a figure of the limit being limited to 0.6 of a volt per metre. How does that relate to microwave?

Mr. B. Trower:

The best thing I can do, Sir, is leave you with this conversion chart. They try to confuse.

The Connétable of St. Brelade:

How does that relate to your suggestion?

Mr. B. Trower:

The moment you come up with levels, they will change it. If you are in microwatts per centimetre squared, they will turn it to watts per metre squared, and if you get the hang of that, they will turn it to decibels, and if you get to that they will turn it to the SAR (specific absorption rate). The best thing I can do, Sir, is leave you with the equivalent levels all round the world and how they interchange; what one means to the other. So this will give you the megahertz, the watts per metre, volts per metre, watts per metre squared, microwatts per centimetre squared. They go right across the board. So if they quote one you can ...

The Connétable of St. Brelade:

That is very interesting, because you will appreciate here we are quite close to the French coast. In fact, on the east and north east of the Island, it is quite usual to pick up French stations. So I was quite interested how that related to the sort of levels we are talking about.

Mr. B. Trower:

I will leave this. But I am biased. I get the crying mothers down the phone, and it affects me.

Senator B. E. Shenton:

Can I ask you a question? I apologise if you do not have the answer, because I have only just thought about it. The Education Minister has announced that no masts will be erected on school property.

Mr. B. Trower:

Yes, Sir.

Senator B. E. Shenton:

However, all our schools have gone wireless broadband within the schools to work the laptops, which obviously means there is a transmitter within the school itself transmitting the signal. Should this be of concern to parents or not?

Mr. B. Trower:

I have a paper here; I can write it down. There are several papers; it is the WLAN (wireless local area network) system. There are now reports coming out written by scientists that schools with this system are experiencing more illness from students; more illness from staff; behavioural changes in the students, which is not a surprise; and generally just more ill health. They are trying to get it stopped.

Senator B. E. Shenton:

I think the Education Department is very proud of the fact that all the Jersey schools have got the latest technology installed.

Mr. B. Trower:

They would be, but I am afraid if you think of the children, they use their mobile phones; they go home and they may sleep near a mast; they go to school and they are using, again, microwave systems. There has got to be an increase in ill health, because they cannot escape the microwave system. They are in it all of the time. They cannot escape it. There is nowhere to go.

The Connétable of St. Brelade:

You mentioned children, and it is documented children are more susceptible to microwave penetration. Has there been any analysis on age? Clearly there is a range of development.

Mr. B. Trower:

It is not age, Sir, it is size. If a child -- for instance, with 3G the wavelength for the 3G system is I think about 6 inches. Now, anything that is 6 inches and water based will act like an aerial. It will resonate. It is how aerials work. If you are the wavelength or a multiple of the wavelength you then act like an aerial. So what you would have with 3G, for instance, would be a 6-inch foetus would pick up the resonant frequency, whereas the mother may not get any of it. A child's head may act as an aerial. It is to do with size. I think the wavelength for TETRA is something like nearly a metre, so the children who are nearly a metre will act as aerials. So it is to do with size and it is to do with absorption.

The Deputy of St. Peter:

You have nicely brought me on to one point. You said TETRA, and you produced a paper on TETRA.

Mr. B. Trower:

I wrote a report. Yes, Sir.

The Deputy of St. Peter:

What were the conclusions of that report?

Mr. B. Trower:

I will quote a phrase given by the government. At the end of their research into TETRA, which was really nil, they said - and this takes some believing - as the police officers are a young, fit, well-established force with a well-designed work pattern, they will make ideal subjects for an epidemiological study into this area. They concluded by saying: "We cannot guarantee that there will not be long-term cancers"; it is in my report, word for word. They also said we cannot rule out damage to the brain - words to that effect - from the 16 pulses a minute from the TETRA set over a long period of time. I have brought a copy of my report I can leave you - I wrote the report into the death of Officer Dring. At the police conference, the TETRA conference, Dr. Levy, the Home Office doctor, when somebody said: "What happens if we do not want to be used in this way?" she said: "You resign." That was the basic choice. She said: "You use it as a part of your contract or you get out." It was as simple as that. Word for word, it is in my *TETRA Report*, which I can leave.

The Connétable of St. Brelade:

Is there any planned change with the second or third generation of TETRA which is spoken of?

Mr. B. Trower:

The problem we have with TETRA, Sir, is the pulse rate. I debriefed spies for 11 years, and I know of -- we are going away from masts now. Your brain communicates with delta, theta, alpha, beta waves. It communicates within itself. The waves are normally undisturbed. If you put electromagnetic pulses through the brain, it is rather like if you are bouncing on a trampoline and I am a 30-stone man and I jump on the trampoline. You will bounce at my speed, because it is easier. It requires less energy. That is called entrainment. Now, when you put pulses through the brain, you can entrain a brain into a different frequency of brain waves. This has been shown. It is easy; all you have to do here is go to any hospital, have your EEG (electro-encephalogram) measured, where they measure your brain waves, make a phone call for 10 minutes and measure it again. You will soon see how much your brain is screwed up. So the pulses that go through, they entrain the brain. Now, it was found by Stealth warfare that if you wanted to make a person not act properly and you entrained pulses through the brain, you can change their behaviour. For instance, 6.6 pulses a second will induce sexual aggression. Eight will make you go to sleep. From debriefing spies I probably have a list of 30 pulses and what has been found to work, leading to maybe 50 different psychological conditions. You can induce depression, suicidal tendencies. You can induce anything by pulsing the brain. Now, with TETRA, which pulses at 17.6 waves a second, that is near the beta rhythm, and the beta rhythm of the brain, around 16, 17 pulses a second, that is what you use for emergency decision-making processes. So you are abusing the very system you need. This is why the international fire brigade union do not want it. Different pulses will cause different things, and all systems pulse. Now, what they will tell you with TETRA, they will say: "Aha, our system does not pulse, it modulates." Technically they are correct. The difference between a

modulation and a pulse, they will all say now -- because I highlighted the pulsing in my report to the Police Federation, they all changed the word “pulse” to “modulation”. What that means is instead of having pulses coming through with a gap, they now have pulses coming through with an infinitely thin band of energy holding them together. Now, technically that is not a pulse. But as I explained in court, I said: “Look, if I am a loader at the end of a conveyer belt loading an aircraft and the suitcases are coming down and I am catching them and loading them, those are pulses. If I am catching the suitcases and there is an infinitely thin elastic band between them, I am still catching the cases and passing them on.” The industry can use the word “modulation” and say it does not pulse, and they are getting away with it, but any scientist that understands entrainment of the brain or anything will know that a modulation is actually a pulse.

Deputy A. Breckon:

Anything else? Any other questions? I will give you the opportunity at the end to say anything you wish, but can I just make a point that you have referred to a number of papers there. Obviously we would appreciate a copy, and if there is anything that we have got we would do that and return those to you.

Mr. B. Trower:

I do not need them returned. You can have all of my papers.

Deputy A. Breckon:

Yes. If there is any cost for those, as I said before, we would be pleased to reimburse you for those.

Mr. B. Trower:

No, I never charge.

Deputy A. Breckon:

I said after you had done your half an hour that we were not working by the clock, and I now give you the opportunity to say anything that perhaps you would like to conclude with, anything that we may have asked that you would like to expand on or something else that you would like to add. The other thing is that I did mention this paper of the Health Protection Unit. We will give you a copy of that.

Mr. B. Trower:

Yes, I will happily take that away.

Deputy A. Breckon:

If some time you would like to respond to that, and again if that incurs you in any expense, Mr. Trower, we would be pleased to reimburse you.

Mr. B. Trower:

No, I will do it for free. Could I have a card to address it back to, a name and an address, please?

Deputy A. Breckon:

We will give you a copy of the script and review, which will have a contact on. So again, it is over to you, and if there is anything that you would like to add, that you feel that we may not have asked or that you would like to add to your initial presentation, please feel free.

Mr. B. Trower:

No, Sir, I think we have said it all. The only request I have ever made to any government, any committee, any council, is could we exercise democracy. People are not stupid, as we all know, and people know if they are not feeling well. Mothers know if they have to protect. Could the general opinion of the public be listened to, and could they have a referendum or a vote on what is effectively going to affect them? That is all.

Deputy A. Breckon:

You are happy with that?

Mr. B. Trower:

Absolutely happy Sir, yes. Yes.

Deputy A. Breckon:

You are content with the format of the proceedings? Anything to add about that?

Mr. B. Trower:

No, Sir. No, Sir. The only thing I have ever asked for is democracy.

Deputy A. Breckon:

Right. Thank you very much indeed for that. We have found that very useful and, as you know, we are going through a process; we have 3 days of hearings next week, so there are a number of other people to hear. But I will just again conclude by thanking you very much indeed for coming to see us today, and I understand you might be seeing us tonight as well. We have a public meeting tonight at 7.00 p.m.

Mr. B. Trower:

Probably.

Deputy A. Breckon:

So I conclude with that and adjourn. Thank you very much.

Mr. B. Trower:

I will leave you all of my research papers and they all have websites and references and things.

Deputy A. Breckon:

Okay. Thank you very much.