

STATES OF JERSEY

Environment Scrutiny Panel Radon Review

FRIDAY, 7th MARCH 2014

Panel:

Deputy J.H. Young of St. Brelade (Chairman)

Connétable P.J. Rondel of St. John

Deputy J.M. Le Bailly of St. Mary

Ms. J. Bradley (Adviser, PHE Centre for Radiation, Chemical and Environmental Hazards)

Witness:

Mr. M Dun

[15:27]

Deputy J.H. Young of St. Brelade (Chairman):

Thank you very much. We have agreed to reconvene to meet Mr. Dun. Thank you, Mr Dun, for your written representation you gave us. I think you did write to us way back, 2 years ago, when we decided to do this piece of work.

Mr. M Dun:

Even longer than that I think. I have sat here before, before various panels.

Deputy J.H. Young:

Right, so just for the record we need to do introduce ourselves. John Young, Chairman of the Panel.

Deputy J.M. Le Bailly of St. Mary:

John Le Bailly, Deputy of St. Mary.

Connétable P.J. Rondel of St. John:

Philip Rondel, Connétable of St. John and former chairman.

Deputy J.H. Young:

Our adviser.

Ms. J. Bradley:

Jane Bradley from Public Health England, Centre for Radiation Chemical, and Environmental Hazards.

Mr. M. Dun:

Mike Dun.

Deputy J.H. Young:

Mike, what would you like to say to us? You heard all the evidence. Just to fill you in before you answer that, we realise it was a very technical subject on which none of us are qualified so we have appointed Jane and her experts, who are the experts in the U.K. (United Kingdom), to review all of the written evidence that was available which we have been given by Health right back to 1987 and give Jane access to the officers. So the questioning we have done today is as a result of this and we will be given a report from Jane and part of our task is to decide which of that goes out as a political recommendation. So thank you for your note, Mike. It is for you to say what you want to say to us.

Mr. M. Dun:

Well, I got interested in radon because as a building designer, as I was, I am now retired. I used to campaign on disability issues, as you know, and there was a worsening conflict between trying to make buildings accessible at ground floor level and ventilating things such as voids because obviously the particular touch point would always be thresholds and it created not unsurmountable problems but it created problems. Any new dwelling, as you have explained today, had to have radon barriers and there is also a requirement now to have level thresholds and not all sites are level flat sites, they vary, and it used to create immense problems. I started to raise the question, and I quoted it from a somewhat different view to some people that why on earth ... if every property in Jersey, if you have to build it, has to have a radon barrier. Is it necessary? That was my starting point because it is extra expense but is it necessary? Is it absolutely necessary? I was interested to hear what the building inspector said today. "If you come along and say to us: You had a radon test and if it is not up to a danger level you do not have to do it." Well, I have

heard, no, to the contrary. People have tried to show that their radon level was not at a danger level or over the limit and that they wanted to be excused from doing radon barriers and they have had an incredible battle not to do radon barriers.

[15:30]

So that is my starting point. I am intrigued because I have heard the Medical Officer of Health, several Medical Officers of Health, come to these same panels and minimise the risk, virtually saying there is no risk from radon really. They are saying this, yet on the other hand we have got this requirement that the whole Island is a radon risk area and I say there is something rather silly going on about this and it has been raised at long last. It is only dwellings which are at risk under the current regime. Other buildings, which are most of the buildings of the Island, for some mysterious reason are not at risk. Radon only goes into houses, which is nonsensical. So the thing as I have, over the years, investigated does not add up. It is nonsensical. Is there a risk or not? If there is not a risk, why are we wasting a lot of time and if people find they have got a radon problem, if they have it tested, if they want to have it tested, that is another issue I want to raise. Perhaps they ought to have it tested, but if they do want to have it tested they can take remedial action if they want to or if they are building a new house they could put them in, but why does every house ... even if you built a new home, you should have to put in a radon barrier - it seems ludicrous to me - if the Medical Officer of Health and the Minister for Health are correct, if it is such a minimal risk and it is not only a minimal risk. It is really only a risk for people who smoke and, as they are saying, that is only 20 per cent of the population. So what are we really talking about? Is the thing fact or fiction? Now, over the years I have come to the conclusion that it is fact and it needs to be accommodated for but I may be wrong. You have got an expert here, but you get contradictory information from America, as she was reading out the figures, but you get instances. You get high risk areas like Cornwall. The last I heard Guernsey was not a high risk area. They do not have the same problem. I do not think they have introduced anything to measure radon in Guernsey. Perhaps we should ask them. They are surviving without it. In Cornwall they had a new school built, Camborne, was it not, 10 years ago, 15 years ago, which their council has threatened to demolish because it had such a high radon risk. That was a school, a building which would not even be under the regulations here. So I am totally bemused to hear the contradictory information which flows around this table from people who are supposedly experts in their field and they disregard it; basically the whole system disregards it. I know what the undercurrent feeling is because I have been campaigning about this for so long. I know about the hidden agenda, as the Medical Officer of Health was saying. We do not want to make a panic, and we do not want to make a panic because we do not want people to start worrying about their house values if you start a scare on it, but there is need to start a scare on it because the Cornwall example ... We have heard about radon bonds and such like. If that is universal the whole Island is a risk area, if

that is what it is. Every transaction on every property you will have to have a radon bond or a certificate to say that this building has been tested and it is safe to sell or buy or live in as it is or if there are problems with it you have to have a sum of money on the sale price which will do the remediation which is necessary; if it proves necessary when you have a test done. Simple enough. It does not really require a huge amount of legislation and they keep saying, "Oh, it is the responsibility of the owner. Tenants cannot do it." That solves the problem. Every property ultimately will have had a test on it because, ultimately, every property gets sold or transacted. It is as simple as that, if there is a risk.

Deputy J.H. Young:

Thank you for that, Mike. I think there is a lot in there which I think are issues that we will have to reflect in our report and I think quite a number of those came out of the evidence, as far as I was concerned. The issues I think you have highlighted are conveyancing; what is done about disclosure on property sale; what is the situation regarding non-residential properties; the arrangements we have or do not have to be able to properly co-ordinate the policy responses of both Health and Environment and the role of Building Control in that.

Mr. M. Dun:

The area, if I interrupt, is the ... Several references were made to possible law cases which might arise even under our existing minimal legislation. As I have flagged up in my report to you, one of those areas is that when houses or properties are transacted, if there is nondisclosure and people know, it would be an offence to not disclose, possibly, that you have a radon problem if it has been tested under the current regime, but if lawyers are transacting, estate agents - you have that piece of document here - why do they not all have this piece of paper on radon? If you want to circulate it to the people who are happy you can take it to estate agents. That is where you take it, do you not?

Deputy J.H. Young:

We have had, obviously, a submission from you on that. We have now had, clearly, from the Minister for Health, their opinion on that as well and we have got our expert adviser saying those things. Colleagues, do you want to pick up anything on what Mike has said?

The Deputy of St. Mary:

Yes, he made a very good point there but what I would like to ask Jane is, if a property tested now with a high or low level, which means if you have got a low level it is a waste of time having a barrier and anything else that goes with it, would that change in a year or 2? Is radon very much up and down or is it stable?

Ms. J. Bradley:

Well, firstly to answer the question about barriers and whether you test; my understanding in England and Wales is that the test will not exclude you from putting a barrier in. You still need to do that if the requirements of the building regulations suggest that rather than a test to tell you whether or not you need to put it in. So that, I think, is not something that happens in the U.K. but to answer your question about variability radon levels will change for varying reasons. The levels vary throughout the day, from day-to-day and over periods so this is why we suggest a long-term test from the start. The long-term test results may also vary because there will be year-on-year variations. However, the general level will not change so you will not go from a very low house to a very high house over time without something else happening to the property. So other things that affect the property or the measurement are changes to the building. So if you put double glazing into a building that previously did not have it the level may rise and if you add extra bits to a building, an extension, for example, you change the air movement patterns, that can also result in substantial changes to the radon level in a building. As you rightly say, if you change occupier you can also, through living style changes, get different levels in a building which is why the radon retention is really only a guide, that is why we recommend when the new occupier goes in they test and they have an agreement between them as to what the level will be and what needs to be enacted upon. So it may be that they will decide that if the level is above our target level of 100 they will pay the money over and do something about it or it might be that it is 200 but that is a private contract between the buyer and seller through their solicitor. It is not something that is in legislation.

The Connétable of St. John:

I have to say there is a lot of common-sense in what Mike has said this afternoon but what has not really been explored; the Island sits ... we have a number of earth movements, tremors and whatever, in the course of the year if you look at the survey, the people in the Met Office, so much so I can recall my own house, several years ago, was actually shaking so, therefore, you have got some faults there somewhere and those, obviously, you would have radon escaping or whatever, I would have thought, up into the higher parts of the strata. So, therefore, when you build a place do you test it before you start building as a regular area or is it once you have put the extra number of tonnes per square metre, once the building is up and you have got the earth movements and whatever goes with it, when would you test it?

Ms. J Bradley:

You would test once the building is completed and occupied.

The Connétable of St. John:

So, therefore, you would have to have the sump in from day one?

Ms. J. Bradley:

In order to determine whether the property requires building protection then a good guide is given by doing some sort of mapping probability and that is what we use in the U.K. If it is above a certain probability then the building regulation guidance kicks in and there are 2 levels of protection in the U.K. There is basic, which is the membrane and then full protection, which is what you have here with the membrane plus provision for a sump. That is there because in the higher probability areas if the membrane fails then obviously there is a way of easily dealing with the issue. As far as testing the soil you can test soil gas. In some European countries that is part of their regulation. They test the soil gas, if the level is above a certain level they put protection in but my understanding is that there is no real link between the soil gas radon and what you get in a building because if you measure a terrace of houses, for example, all built in the same place or very close to one another you get a range of radon levels and it is to do with other factors as well as the potential in the ground. That is why, when we make potential maps, we do them based on both the geology and also the measurements in the homes that sit upon them.

The Deputy of St. Mary:

What sort of other factors, Jane?

Ms. J. Bradley:

Other factors that affect the levels are the house's position, how the wind acts on the building, how people live in the building, how much they heat the building. Hot air rising in effect means that air goes out at the top, it has to be replaced from somewhere. Some of that will be coming through or around the floor because of a pressure driven flow between the soil gas and the building. So all of those things can affect it. Now, if you have the protection in place obviously that should eliminate radon as a source so if the potential is higher and I think that the Environmental Health representative suggested that this is a higher area then that would be appropriate to do.

Mr. M. Dun:

Can I ask your lady ... from my perspective, as I say I got into it by accessible thresholds and so on. It always seemed to me that a damp proof membrane on its own without having this continuous strip at the point where my concerns are, with just a vent with a sump would be adequate in virtually every scenario. That would be adequate. You do not have to have that joined with the ...because not many buildings are being built now with cavity walls. I mean this is one of the ludicrous aspects of it that you have to create this rather difficult ... and obviously if you have an accessible building very often the outside ground level needs to be somewhere near the inside floor level so people can have access room. Does it, in practice, make any difference if you

have to have these rather more convoluted radon barriers as opposed to a conventional damp proof membrane? Is it that much better really? Is it worth worrying about?

Ms. J. Bradley:

My understanding of a conventional damp proof membrane is that it does not need to be sealed through the wall. The major point of entry for radon into a property will be through or around the floor. So it will be around the edge of a concrete floor within the building or through a suspended floor, if it is wooden suspended. Again, you get concrete suspension ...

Mr. M. Dun:

Because this was always one of the mysteries that we were ... somehow or other the radon is going to know to go into the sump but obviously radon has got ...

Ms. J. Bradley:

I will explain that. As far as the main route of entry, it is around the floor. So the important place to seal is not under the concrete floor but it is where the wall and floor joint is and that is why the continual membrane is needed across the footprint of the building, if not there is the potential of radon to come up through the cavity and if it comes into the cavity then it can get back into the building around window boards and things like that.

Mr. M. Dun:

The 4 inch pipe, which is usually allowed on the outside of a building to which a person has to attach a fan if they discover they have a radon problem, which nobody is going to discover it because nobody is testing them, but if they do discover they have got a radon problem they put the fan on it, is that sufficient because the nature of the structure of buildings, is that sufficient that all this radon is going to go into that sump and disappear out the pipe because it all looks like nonsense to me?

Ms. J. Bradley:

For most houses that is sufficient. For an average building the permeability underneath which is what the sump sits into gives sufficient movement of soil gas. In a new build, for example, you will have some sort of fill around it and if you connect a fan of a reasonable wattage, of 50 watts plus, then that will cause enough pressure differential to get the soil gas drawn towards and exiting the sump rather than coming into the building. The pressure differential that exists through the hot air rising effect indoors is quite small, even though it will bring the gas in, the pressure is quite small compared to if you put a fan onto the sump. Obviously, if you have a sump that is going into solid clay it is not going to work but if you have it positioned, certainly in a new build, where you have got permeable fill around it then that acts quite well.

[15:45]

Mr. M. Dun:

I am out of the business now, thank heavens, but one of the great mysteries again of all this process, they were trying to build the gas tight fit house and they had this machine that could come and test how gas tight it was and it was to have a pressure exactly ... which would have repelled anything getting into it in the way of gas coming up so there was no need to worry about it anyway because it couldn't get in because the pressure within the box was going to keep the gas out anyway.

Ms. J. Bradley:

The pressure inside will always be lower than outside.

Mr. M. Dun:

Oh, right, but then, as you were saying, if you make these gas tight boxes and they have only got little trickle vents, which everybody blocks up anyway, the trickle vents, because they can't stand the whistling noise so they block those up and you get all these houses with condensation, huge condensation problems, because they have got no flues, the traditional way of taking the stuff out, so you make this thing, this gas tight box; is this good? Have you resolved that this is a good thing or a bad thing or is that helpful or not?

Ms. J. Bradley:

We have not done a huge amount of research but research has been done elsewhere where you have a building built from new that is completely airtight then you need an air handling system which I think the Building Control representative earlier mentioned. You have to have some air input. Now, those are a way of dealing with radon. If you make sure that you are getting a positive input compared to output so you are bringing more fresh air in basically than is going out, that would also help the problem with radon, but for most people they tend to retrofit these things so you are not talking about new build as being so much of an issue it is more where houses are fitted with more sealed windows, as I said, and that type of thing without the seal to the ground being there but that is for existing housing rather than new build.

Deputy J.H. Young:

It sounds like we ought to ... what we may have to do ... I mean obviously this is a very technical area.

Ms. J. Bradley:

The level threshold is also an issue which our building guidance people are very well aware of.

Deputy J.H. Young:

So we may have to talk to Mo and just check out what he is doing about these methods of alternate building that Mike is talking about here where you have got these kind of, in layman's terms, sealed box things which frankly I do not understand but I have heard pressure testing being talked about and I do not really understand what that is about. I think that is to do with energy.

Ms. J. Bradley:

It is to cut down the airflow. Normally in a building before the airflow rates were about one air change per hour. They are trying to reduce that now so that ... because if you are getting more air changes, the hot air is going outside and being replaced with cooler.

Deputy J.H. Young:

In these procedures we do have the ability to clear up particular points, usually by email after the meetings, where there are particular points. So I think what I would certainly conclude, Mike would be content with this I think, you have raised a technical point. In our sessions we did not dwell on a lot of technical details but I think we have got some points of principle out. I think that is an issue of technical detail that we can follow up.

Mr. M. Dun:

You also need ... I would suggest you desperately need to speak to somebody at the Law Society especially since a particular prominent lawyer was complaining that his father had died as a result of radon gas.

Deputy J.H. Young:

Yes, I think that is a plan. I think, hopefully, you feel ... you also mentioned in your note about occupational use of buildings, such as quarrying, and we hope you feel that has been picked up in the exchanges we have had. We have certainly got to consider the position about non-residential property and then the issues that arise from radon in water.

Mr. M. Dun:

This building has got a large basement. Has anybody ever tested it?

Deputy J.H. Young:

I think you've helped us put those items on the agenda. Mike, I thank you, unless there are any other points you want to make.

Mr. M. Dun:

Thank you. No, that will do. No doubt I shall think of something else but ...

Deputy J.H. Young:

Thank you for that, Mike, and we appreciate your interest. I will now close the supplementary session. Thank you.

[15:49]