Submission of Dr Mels Barton – transcribed from a recording of Dr Barton's submission

Good Morning, I apologise for not submitting written evidence. I was only told a couple of days ago that that was necessary. But what I am doing is I am recording my submission for you and I am quite happy to submit that to you electronically so that you have got a record of what I have said.

My name is Mels Barton, I live in Titirangi ….. I live here in Davies Bay which is in South Titirangi so I look across at the treatment works basically from the beach there. I have been in NZ for 14 years, I did my degree in Geology and Physical Geography and I have a doctorate in Estuarine sediment transport mechanisms so I was really looking at the transport of sediment around an estuary in the UK and that experience led me to work for the environment agency. I was employed originally by the national rivers authority one year after the water industry was privatised in England and Wales which happened in 1989 so I joined the National Rivers Authority in 1990 and I remained there until 1999 when I came to New Zealand. During that time I did a number of jobs but I worked in discharge consenting the entire time in the regional unit, and basically by the end of it for the last three years I was managing the regional consents department for the whole of Wales. My experience during that time was that we worked on very many large sewerage discharges around Wales particularly on the coast and the issue as you know with the privatisation of the water industry in Britain was that there was an awful lot of EC directives that needed to be met in a very short space of time including the urban wastewater treatment directive which put minimum standards on to discharges coming from certain sizes of populations right across Europe.

Now the situation in Britian was that the majority of discharges to sea were crude/crude surge they were not treated or if they did have treatment it was only primary or screening basically. And so there was an awful lot of investment to be done in order to bring those up to the standards that were going to be required by Europe and cynically you might say that is exactly why the water industry was privatised so that the government did not have to put the taxes up to pay that, the big bad water companies could put the prices up to pay for that, but that is what happened. At the time industry was privatised the government created two regulators, an economic regulator called offwat to control the prices that the water companies were allowed to place and also the environmental regulator which was the Naional River Authority which later became the Environment Agency when it merged with HMRP which was the chemical inspectorate and the industrial waste people from the councils so that we covered air land and water. So I worked for that organisation for nine years and had 9000 employees and as I say I worked on not just local discharge consents but also developing policy across the entire country on discharge consenting particularly on combined sewer overflows and one of the projects that we put together in Wales in order to be able to direct the water company investment in the correct way to get the best environmental output as well as meeting the terms of the various directives that we were required to meet was we looked at the environmental impact of every single sewerage discharge in the whole of wales. That's all of the sewerage treatment works and every single combined sewer overflow of which there were around 4000 combined sewer overflows in Wales at that time. To put that in some kind of context for you the UK's sewerage system is basically Victorian as built around the turn of the century. It was a combined…..

Question…

Response to Question: Its very relevant to the situation that you are actually facing at Auckland at the moment, because in the UK you have a combined sewer system where new developments are actually separated in an attempt over time eventually to move to a separated sewerage system. The impact of having a combined sewer system is major on your environment. The issue that you are facing with your proposal for the Central Interceptor system is that you have got a mainly, almost entirely separated sewer system in Auckland at the moment because it has been built relatively recently. There are only very small areas of the city that are still remain being combined and yet this proposal for a Central Interceptor will take you towards having a combined system. Watercare are proposing putting sewerage and storm water together into an interceptor and sending it to a treatment works and not only just for this interceptor, there are other interceptors proposed for the future. So you are actually taking Auckland back to a Victorian situation you are going from a modern separated almost competed sewerage system from a modern city and taking it back to a Victorian situation where you have no control over your discharges, you have no control over the volume that is going to be received by the treatment works, you have no control over the quality of the overflows that you are going to have to endure over time. So to my mind it is extremely relevant that in the UK and elsewhere in the world every city strives towards getting a separated sewerage system, and in Auckland we are sticking our heads in the sand and we're trying to move back to something we should have been rejecting 50 years ago.

Question…

Response to Question: We, as I say we assessed the environmental effects of every single sewerage discharge in the whole of wales. We prioritised them and then we directed the water company investment towards getting the best environmental outcome. We spent over 500 million pounds sterling of Welsh water company's customers' money in five years improving those discharges. We had 40% of the combined sewer overflow were unsatisfactory and causing serious pollution and environmental effects and I say that because those improvements are ongoing. When you have combined system you don't ever solve the problem. You always have a problem because you always have rain, you always having increases in capacity in the demand of your system and because you have growth and therefore you always have pressure on the system. It never goes away and you cannot control that because you cannot control the rain and one of the major risks that I see to Auckland moving towards that scenario by the Central Interceptor is that the climate is changing and we don't have any idea what that is going to do to the rainfall patterns in Auckland and in order to have any control over how you plan your infrastructure in the future particularly your treatment plant its capacity and its ability to treat effectively and to standards, design standards you need to be able to control the volume and the strength of the sewerage that goes into it and once you combine wastewater and storm water you lose that control to a large degree so I think the fundamental principle of having the Central Interceptor is flawed and I think it is going backwards and I just don't think that it is something that unless, that Auckland should be spending a billion dollars on at this stage. That would be far better invested in separating the rest of Auckland.

Question…

Response to Question: I thought I was addressing this particular project……

Question…

Response to Question: Yeah I do, they have a combined system in the first place. They always have had and I suspect that you will find that some of those other cities do as well. So there is no benefit to them to having a CI is there as they already have a combined system to deal with, Auckland doesn't, Auckland doesn't have a combined system, it has a separated system. When I came to Auckland in 1999, I was employed as a environmental consultant by Metrowater, by the Auckland Regional Council, by the Waitakere City Council, by Auckland Council, by city design to give them advice on, my experience and I went out and I assessed every single storm water outfall in the whole of the Auckland isthmus for its environmental effect, exactly the same as we had done in the UK and I developed a prioritisation methodology for them to enable them to use that information to prioritise their spending on the remaining small areas of combined sewer overflows that they had in the city. That was 15 years ago, so they had the information then in order to be able to deal with the worst problems and to look at staging the investment in order to tackle the areas that were suffering the most so I would be asking the question what has happened in the 15 years since in terms of spending that investment in those combined areas. It was very obvious where the problems were and this Central Interceptor does not solve any of those problems, all it does is move those problems from one place to another and it puts a great deal of risk onto the treatment works at Mangere for the future because it takes all of those discharges and puts them all into the treatment works at Mangere and it will bring it to its design life sooner particularly if the climate changes and we get significantly more rainfall in Auckland because you will not have any control over that rainfall not going to the treatment works by that stage because it will all go to the Central Interceptor it will all go to the treatment works, so you won't be able to separate out that wastewater and use it as recycling grey water in your systems, you won't be able to use it in any kind of intelligent way in designing the city's water infrastructure in a more sustainable way, in a more logical way to deal with either shortages of potable water or in terms of the design life of the manager treatment works and I personally believe it is going backwards, I don't think it is a good use of ratepayers money and as someone who has spent many many years consenting large sewerage works of an equivalent size as what you are talking about here I am extremely concerned about the rigour of the data that has been supplied to justify this project. For a start I mean if you listen to what the previous speaker said he focussed very much on what I would call the combined sewer overflow, this EPI, to do with the CI and as you said Mr Hill the return period, the frequency with which this overflow is supposed to operate is 1 in 50 years, that was what Watercare have told you, well I would say how do they know that, because in order to be clear about what your return period is for overflows you need to have extremely good rainfall data going back several hundred years in order to have confidence that those rainfall models are predicting a return period as infrequent as that and I would assume that since Europeans have only been in NZ for 150 years that you couldn't possibly have more than 150 years' worth of rainfall data and the accuracy of that first 100 years of data I would question, so I would have huge questions around the accuracy of the rainfall models that are predicting return periods of 100 years or 50 years. You cannot. You absolutely cannot rely that is correct and I mean when we were accepting consent applications in the Environmental Agency we had extremely rigorous pre-application procedures that we would go through with the applicant to ensure that they were providing sufficient data and those pre-application periods would last for a number of years in many cases with us working with the consultant's and with the applicant themselves to ensure they had done proper hydrological modelling for their sewer flows,

for their inflows, hydrological and hydrodynamic models for their receiving waters and estuaries being a particularly complex system obviously because you have the tide as well as the river it is not just as simple as it going into a river, and we simply would have not accept applications coming to us and starting a formal process without we were confident that they had done the science and that they had done the modelling and that they had provided the information that we would be satisfied would answer the questions that would enable us to set the consent and set the limits of the consent, now having seen the questions that have been asked by um…

Question…

Response to Question: I think that I am trying to paint a picture that you need to have serious concerns about the rigour of the data, the availability of the data, the information that you received. I haven't seen anything in Watercares application that would actually take me to the point of accepting this as a consent application at this point.

Question…

Response to Question: There is no hydrodynamic modelling of the estuary receiving water, there is no dilution dispersion modelling of the overflow, there is not even a provision of the data to support the actual flows that you could expect to get to the overflow. Those are really really basic things and they have been pointed out by Miss Floyd in her assessment of the WaterCare data as questioned and I don't believe as a previous speaker pointed out in detail in his evidence that those questions have been answered and I think that you need to be asking those questions and asking for them to be answered before making a decision in this consent application.

Question…

Response to Question: It needs to be really substantial; you would need to have a hydrodynamic model of the Manukau Harbour which is not a small thing. That would take years to put together and you need to have had continuous water quality modelling, depth modelling, dilution dispersion modelling from the point of outflow so that you can be confident of every state of tide of every situation you 've got a simulation that can tell you what is going to happen to that discharge and that it will meet your dispersion standards at the point of discharge because otherwise you can't consent it you can't give it consent if it is going to fail the standards right from the word go, and if you don't know whether it is going to meet the standards at the point it is discharged then how can you give it a consent.

I'll also just have a look at the unitary plan because I think that there I some really significant questions that need to be asked about the…

Question…

Response to Question: I don't think you really understand the implications about what Watercare have said in their evidence as far as the infrastructure plans in their asset management plan that do not match up with the intensification proposals in the Unitary Plan, if you don't think that that is an issue that is of concern to this Central Interceptor consent proposal because if you don't have infrastructure across the city that is going to cope with the massive increase in storm water that you are going to get as a result of intensification then you are going to have flooding across the city and

it's just a disaster waiting to happen and I think that this interceptor is not going to solve those problems at all and the money that it is going to cost to put this in would be far better spent on dealing with those issues of upgrading the system in the areas that are going to be intensified that the council are saying are going to be intensified in order to resolve those issues because they don't match, Watercare themselves have said that in their submission to you that they don't match , so they are planning to spend a billion dollars on the Central Interceptor which won't solve any of those problems, then are they going to come back to ratepayers and ask for another billion dollars to solve those problems?. That's the questions that need to asked about the wiseness of spending that money on the CI that isn't going to solve any of those problems. You are basically moving all of the Central Interceptor achieves is moving the combined sewer overflow problems from the Waitemata harbour into the Manukau, you move your problem from one place to the next, you don't solve it.

Question…

Response to Question: No, no Watercare themselves have said that they don't match in their evidence. They have clearly said that the areas identified for intensification do not match the areas that they have identified for upgrades to their system over the next 10 years.

Question…

Response to Question: Yes, that is right sorry.

Question…

Response to Question: To my mind theres you've got huge recreational interest in the MH, you have got shellfish gathering that is extremely important for public health, that you do not have contamination of those beds. You've got recreational bathing, I mean people swim at my beach at high tide every tide, you can't say as Bronwen has said at Cornwallis it is really massive. You've got very high level of recreational use in some areas. The danger of having overflows of crude sewerage into the upper harbour where dilution dispersion is extremely limited, there is very small fresh water flows into the Manukau Harbour, it is a …. Harbour. The main river that formed it has been diverted by a volcanic eruption millennia ago, so the harbour itself is dominated by the tide which is why it is silting up so rapidly, it is very very shallow, its very poorly flushed. And the risk of putting major crude sewerage discharge into the upper harbour on those recreational uses alone let alone the ecology of the area is huge. I would say that you would have to close the entre harbour for shellfish gathering and recreational bathing should you have one of those overflows - you would have to, it simply wouldn't be safe. And because you are talking about a massive volume, absolutely massive - 20 cubic meters per second it is bigger than most rivers, its a massive volume of crude sewerage going into the upper harbour and as was pointed out in the previous speakers slide was very telling of where the overflow is planned to go straight into a mud flat. There is absolutely no way any type of discharge should be going straight onto a mud flat, let alone one of that size. And as I said the main thing that concerns me about it is the accuracy of the rainfall data that has been used to calculate the return period with which that overflow will happen. You have no confidence whatsoever that it is going to be one in 50 years, it could easily be one in 10 years, it could be one in 5 years because you just don't know . Every time there is a massive rainfall event in Auckland those return period will change because you have so much more data of another event they would change every single time there is a storm event.