STATES OF JERSEY

Environment Scrutiny Panel
Protecting the Marine Environment

WEDNESDAY, 7th SEPTEMBER 2011

Panel:
Deputy P.J. Rondel of St. John (Chairman)
Deputy D.J.A. Wimberley of St. Mary
Deputy S. Power of St. Brelade
Mr. B. Brown (Panel Adviser)

Witness:
Deputy R.C. Duhamel of St. Saviour (Minister for Planning and Environment)
Chief Executive Officer, Department of the Environment
Director for Environment & Deputy Chief Officer, Department of the Environment
Director of Environmental Protection, Department of the Environment
Head of Water Resources, Department of the Environment
Business Manager, Department of the Environment

Also Present:
Scrutiny Officer

[10.00]

Deputy P.J. Rondel of St. John:

Good morning, ladies and gentlemen, I would like to welcome you all to this Environment Scrutiny Panel hearing on water quality. Firstly, I would like to draw your attention to the paperwork in front of you, gentlemen, giving you the terms under which we operate. We will start off by going around the table giving our names for the record because everything is being taped. I am Deputy Phil Rondel, Chairman of the Environment Scrutiny Panel.

Mr. B. Brown (Panel Adviser):

Bruce Brown from WCA Environment, adviser to the Scrutiny Panel.

Deputy D.J.A Wimberley of St. Mary:

I am Daniel Wimberley, Deputy Chairman of the Panel from St. Mary.

Deputy S. Power of St. Brelade:

Sean Power, Deputy of St. Brelade.

Scrutiny Officer:

Scrutiny Officer.

Business Manager, Department of the Environment:

Business Manager, Department of the Environment.

Head of Water Resources, Department of the Environment:

Head of Water Resources, Department of the Environment.

Director of Environmental Protection, Department of the Environment:

Director of Environmental Protection, Department of the Environment.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Director for Environment & Deputy Chief Officer, Department of the Environment.

Minister for Planning and Environment:

Deputy R.C. Duhamel, Minister for the Environment.

Chief Executive Officer, Department of the Environment:

Chief Executive Officer, Department of the Environment.

The Deputy of St. John:

Thank you. Over recent months we have been carrying out a review on the quality of our water around the Island and we have taken evidence from a number of different sources, people within the aquaculture industry and others. I will start off by putting questions, if I may. Yesterday we interviewed a representative from the aquaculture industry believed to have the largest shellfish business on Island but I think also in the oyster industry within the Great Britain. He told us that a number of years ago there were problems with the water quality that affected the industry which were resolved by concentrated efforts from the departments and led to a real improvement. However in the last 3 to 4 years he claims that testing has resulted in the grading of his shellfish beds being dropped from A to B standards. He clearly believes that this is due to a fall in water quality and that the department needs to do more to identify and resolve these problems. What do you say about these comments, please?

Director for Environment & Deputy Chief Officer:

We are obviously responsible for the work that the representative from the aquaculture industry is referring to and it would be prudent, I think, for the team to outline the advances that we have made, not only in understanding water quality but in our relations with not just with Aquaculture Association but with other stakeholders in the marine environment. I think perhaps Director of Environmental Protection if you can outline some of these issues.

Director of Environmental Protection:

Yes, certainly. I think I would just like to start to put it into context. Of the 12 or 13 beds we have in the Island, 2 are grade A and the rest are all grade Bs, but in the context of the U.K. (United Kingdom) where there is something like 400 beds and only one grade A. So that is the baseline context. Another historic point is that we changed the laboratory undertaking the analysis for the grading of the shellfish beds and this changed from a lab at the general hospital to an accredited laboratory in the U.K. When you get 2 labs doing 2 sets of results they are never the same, there is quite a statistical difference in the results. But being that the U.K. is accredited that is the one that we need to go with and believe in. But it is true to say that the results received from the general hospital were statistically lower, or higher in grading terms, than the U.K. So that has caused a detrimental effect on the grading system. The Chairman referred to an incident which happened, I think it was in 2008, where if you remember e-coli was found on Grouville Beach. That forced the closure of the beach and then created quite a lot of public attention through the *J.E.P. (Jersey Evening Post)* of Grouville Beach being closed as a result of an e-coli outbreak. What Environmental Protection did in that circumstance was to pull together the relevant parties, including the aquaculture industry, and we had several meetings, sat together around a table with the States vet, with experts from the C.R.E.H. (Centre for Research into Environment and Health), David Kay, who has given evidence before, ourselves and Fisheries, and indeed T.T.S. (Transport and Technical Services). Together with the aquaculture industry we tried to work out or formulate an investigation or an angle of attack, how can we identify what is going on in Grouville Bay and how can we minimise any pollution. That was quite wide-ranging. We failed to identify any large, what we call, spot or point source pollution events within the bay itself. We monitored streams, where they were high we then monitored

further inland. We then met and took the stance that if we cannot identify any large point source of septic tanks or something contributing to the deterioration of the sea water then what we would do is formulate a list of all the possible variables affecting the oyster beds from C.S.O. (Combined Sewage Overflow) sewage, discharges, cavern discharges, going down to the bird population, septic tanks discharges, all the way through really to beach clearance because there was some correlation. At the time T.T.S. were cleaning the beaches at Grouville, getting big piles and that pile would sit next to the oyster beds. A lot of maggots in there, a lot of bird activity which could also then be an input into the beds. So we have tried to minimise all those separate issues. We have still, despite ongoing monitoring, failed to identify a large point source pollution of the beds itself. What is clear is that it is related to high rainfall events and what is clear as well, as you will know, we are getting an increased frequency of high rainfall events. If you remember the snow melt event which happened early in December 2010, we had a lot of surface water coming down, a lot of wash off from the land, a lot of surface ingress into the sewerage system and that is when we see high levels of bacterial loadings within the beds. The frequency of those events have increased and led to, if you like, high levels for a specific period of time. The problem with the grading of the oyster beds, it relies, I think, on 12 months' data. So you only need one of those events to kick in and the grading then goes down.

Deputy S. Power:

Can I just follow up on that? The Chairman posed the question that one of the oyster company directors or owners had made the point that that in his opinion the water quality has deteriorated consistently over a number of years, would you agree or disagree?

Director of Environmental Protection:

I have had a quick look at the grading data, it is so variable. I would tend to say that is not ... I have not seen it substantiated with any evidence of the grading beds. As Environment Protection, we also monitor the bathing waters, particularly at Grouville and Green Island in this respect, in respect of the bed areas, and that has actually improved. The 2 are somewhat different. The bathing water is a point sample taken from the sea, the oyster, it is a different protocol it is taken under but certainly the bathing water, the bacterial loading within that, has improved. That is correlated again, you know, we have had dry summers for 2009, 2010. Again, the problem is that the shellfish waters are year round and they are encompassing these high rainfall events. But to answer your question, I have not seen any ... I have not been able to pinpoint any statistical evidence that the shellfish bed grading data has declined. I would have to look in more detail at the actual figures but I drew some line graphs just before I came and it was pretty much static although highly variable.

The Deputy of St. John:

Minister?

Minister for Planning and Environment:

Yes, thank you. I will make some comments, I do not know necessarily they are relevant to the terms of remit for the Scrutiny Panel but nonetheless I think the comments must be taken in terms of how I operate, which is I am mainly particularly interested in the strategic context within which all of these policies lie. I think the Chairman asked a question as to whether or not ... or what I seemed to read into it,

you are asking whether or not it was acceptable from a fish farmer's point of view that his beds should sometimes find themselves in terms of requirement of depuration facilities and be downgraded from A to B. Certainly my stance as Minister for the Environment is to move in the direction of trying to safeguard the cleanliness of the waters in absolute terms, and I think it must be an acceptable way forward to encourage the integrated adherence to policies whereby we can achieve the best growing conditions in the sea for the fish farmers on which they derive their income. The factors that have to be taken into account must also be, in terms of planning, the extent to which fish farmers, if they find themselves in dirty water conditions, have to then invest in expensive depuration facilities onshore. In the Island, as we all know with the Island Plan, there is a shortage of such sites for these facilities and certainly there is an antipathy in a lot of the resident population's minds to the building of these facilities onshore. But it really begs the question, Chairman, that if indeed we are the ones, i.e. through the States, who are dirtying the waters and causing greater expense to have to be spent by the fish farmers, then it seems to me it is a lopsided way of drawing up your policies. The logical way to proceed must be to insist as far as is possible and keep ... to look for, as far as possible, the waters to be as clean as possible and that really means going back the end of pipe conditions and not just relying on the fact that the seawaters around the Island could be seen to be an infinite dispersion pot into which all problems, if you kind of drip feed them in at low rates, could be not seen to be the problems that they are. It is a question of the environmental philosophy and I think we are starting at the wrong end.

The Deputy of St. John:

Thank you. Deputy.

The Deputy of St. Mary:

Yes, going back a bit, firstly the basic fact of 2 grade A ... you are saying there is now currently 2 grade A and the rest grade B. Going back a little way, what was the proportion and what was the grade A and grade B, because my understanding is that there used to be many, many more grade As.

Director of Environmental Protection:

I think historically yes there was a ... the grade A bed we are talking about, Le Hocq. I do not have the figures to hand but certainly there were 3 grade A beds then before the downgrading of the grade B to grade A at Le Hocq.

The Deputy of St. Mary:

I think before that there were even more.

Director of Environmental Protection:

Yes, the grade A beds historically are out at Seymour Tower, so quite a distance off. There was certainly one grade A bed which was downgraded to a grade B, which mean that one firm then had to ... could not then sell product direct from the bed but had to depurate.

The Deputy of St. Mary:

Can you get us maybe accurate figures for the review of when all the beds ... going back, say, 10 years and historically, the proportion or the numbers of grade A and grade B, because clearly we do need to look at that, and then to check that against

your statement that it was a change of lab. Just on that change of lab, even if the change made the difference between grade A and going down grade B, would you not agree that now we could move to grade A even with the same lab?

Director of Environmental Protection:

That would be our aspiration, absolutely. I think the report correctly identified that we need a policy decision on where we need to hit. The U.K. has adopted that and said: "Okay, we are going to head for grade B but there must be no detriment to those bed gradings." It is a policy decision, where do we want to be. I think as Environmental Protection we are here to protect the environment and our aspiration is to have a grade A bed and, as I say, we try to minimise all sources. But having a policy decision will enable then the aquacultural industry to take a view on the infrastructure and investment they need, depuration plants and everything, and the attainable levels that we can then reach.

[10:15]

The Deputy of St. Mary:

Right. Now this business of the bathing water quality, what is the sampling regime on that? Is it daily, is it every week, what is it?

Director of Environmental Protection:

It is throughout the bathing water season for a period 20 weeks and in 16 bathing waters classified as popular bathing waters around the Island are sampled every week.

The Deputy of St. Mary:

Once a week?

Director of Environmental Protection:

Once a week, yes, for that 20 week period. So on a Monday and Tuesday every week those samples are taken, and taken very much in strict accordance to the criteria laid down by our own lab and indeed the European directive on bathing water, so it is a fairly robust sampling strategy we undertake on that.

The Deputy of St. Mary:

Where are they tested? Where is the actual lab work done?

Director of Environmental Protection:

It is done by the States lab here. So they are collected from a set depth and a set location. Other parameters are also recorded, such as seaweed, bird activity. They are immediately put on to ice and immediately delivered to the States analyst. He has got the protocol to analyse them as agreed with C.R.E.H. in the U.K. Then those results are audited again by C.R.E.H. in the U.K.

The Deputy of St. Mary:

Okay, the last of my questions in this set is you mentioned snow melt and you were suggesting that rainfall events might give bad readings in terms of pollution in the sea. It is taken once a month, is it not, the actual sampling is once a month to grade ... the sampling that determines the grades of the beds is once a month?

Director of Environmental Protection:

Yes.

The Deputy of St. Mary:

That puzzles me really. Did the snow melt on exactly the right day for the pollution ... do you see what I mean?

Director of Environmental Protection:

Are they tied in?

The Deputy of St. Mary:

It seems odd that the readings which you are saying are not really declining because really it is all still the same and yet we have gone from A to B in several beds, if not many beds, and I am trying to work out how you can say it was snow melting on such and such a day and testing that.

Director of Environmental Protection:

I do not know about the specific event, the actual sampling of the beds is done by the States vet but you must know that an oyster assimilates 3 or 4 days of bacterial input from the sea. So, if you like, it is a very good monitor of sea water conditions, because it is sat there feeding on everything which has come down. We have done some correlation on rainfall events and said: "Let us look at the loading on the oyster beds compared with a rainfall event the day before, 2 days before, 3 days before, to see how long it takes in the system and that there is a correlation there between it." What we are doing is addressing the impact of those rainfall events by several

measures. The first is decreasing the surface water in the system so the cavern does not fill up so much and is then discharging during such events. The second one, and I think a very important one in this context, is the department has partly funded slurry stores for cattle farms. As of this year, all cattle farms in Jersey will have a slurry store for 3 months. The closed season is from 1st October to 1st January. So when the plants are not uptaking those nutrients they are not allowed to spread. But for the fish farmers that means that ... or for us it means that when we do get these high rainfall events the slurry is not on the land and that is one potential link which can help solve the problem. Another area we are looking at under the new Rural Economy Strategy (R.E.S.) is of course during a rainfall event, planting ... you get a lot of soil runoff, that can also carry bacterial loads into Grouville Bay, and it is looking at soil management plans for the farmers as well to identify those hot spot areas so it can limit those as well.

Director for Environment & Deputy Chief Officer:

There will be conditions applied upon the R.E.S. applications to ensure that farm manure waste management plans, soil management plans are in place before any grants, for example, are given through the R.E.S.

The Deputy of St. Mary:

So to sum up you are saying that the quality issues in the oysters are static. It has not been getting worse over the last few years. That is what you are claiming.

Director of Environmental Protection:

I must admit it is a case of ... I did a lot of statistical analysis back in 2009. I have not sat with the data and gone through it to look at that variation and to look at exactly what has happened the last 3 to 4 years. My impression from just yesterday having a quick look at the graphical representation of that data is it is very variable but it is static.

The Deputy of St. John:

It was put to us yesterday that there was a need for an audit of the quality of local water to obtain better information than is currently available to check existing data and monitoring results, and establish additional sampling points. How would you respond to this?

Minister for Planning and Environment:

I think I would certainly support that. I think maybe monies might be better spent in stopping the inputs into the systems that process them and allowing the effluent to come out with the particular loadings in the first place. So it is a question of prevention and cure. It does seem to me that you could, for example, go and spend an unlimited amount of money sampling in real time at all of the outlets, that would certainly give you extra information, but what would you do with that information? It would probably, inevitably, lead to a change in policies which would indicate that perhaps monies are being expended on technologies that do not deliver value for money in doing the particular job for disposing of particular waste into the environment.

The Deputy of St. John:

I am heartened to hear that, Minister.

Mr. B. Brown:

Just a quick one. What might be seen as a major source of coliforms in terms of volume possibly is the Bellozanne outfall which, as we know, has a U.V. (ultraviolet) treatment. Can you comment on how well that performs against other treatments of its type? Against maybe other works in the U.K.

Director of Environmental Protection:

Certainly. I have the figures ... 2 sets of data, one is the operational data produced by T.T.S. which we have, and the other is our own data in relation to the change of the discharge permit. A review was recently undertaken by David Kay of that precise question who said it was average. We identified some sampling issues, if you like, within those results, because having had a look at them they were highly variable and not related to stormy conditions. T.T.S. have now tightened up on the exact science of how to take that influent and effluent and not using the same gloves or what order to do it in. The results are better, but certainly we are getting 99.8, 99.9 per cent kill rates. What we are actively doing is recognising the fact that the kill rate will go down during stormy conditions according to the sediment load. Basically the UV light comes in and bounces off the suspended solids and does not get to the bacteria to kill them off. We are now undertaking a variation to that permit in relation to that which says instead of the discharge permit, which we regulate, stating that the input into that system or the light source into that system must be X, it must vary with the amount of solids coming through the system. So in times of stormy events then the light will rack up, you will get maximum input to a maximum kill rate, so it is

something we have recognised and we want to try and increase the efficiency of that UV kill rate. But we have had nothing to ... no evidence within the monitoring data that it is not performing. It is about 99 per cent kill rate we are getting. There is a few bleeps but that is the standard.

Minister for Planning and Environment:

The big difficulty as I understand it is that because the Island has not sufficiently spent on a sustainable urban drainage system which diverts lightly soiled waters out of the sewerage system the existing sewerage system is not able to cope adequately in high rainfall periods, or shortly thereafter. So that means that an element of the effluent gets passed through the system and cannot be as effectively treated as if you were just treating the black water.

The Deputy of St. John:

Yes, I accept that. Yes. Can you explain why there is such a disparity between bathing water and shellfish monitoring results? One consistently appears to be excellent while the other is inconsistent, apparently deteriorating over time.

Minister for Planning and Environment:

Can I come in there? I do not think bathers are filter feeders but **[Laughter]** ...

Director for Environment & Deputy Chief Officer:

That is a fair point the Minister makes. We are not necessarily comparing apples with apples there. There are timescale analyses through the summer in bathing water season where bathing water is sampled and it is sampled to specific methodologies

that are specifically for bathing waters. The waters around oyster beds are sampled in a different manner on a year round basis and are sampled on parameters. So it is not something we can compare.

The Deputy of St. John:

So you would not be examining heavy metals, et cetera, in bathing water?

Director for Environment & Deputy Chief Officer

Your bathing water samples are taken specifically really for human health related issues, so coliforms and streptococcus.

Head of Water Resources, Department of the Environment

No, we would not do heavy metals in bathing water.

Director of Environmental Protection:

I think you are right, though, there must be some correlation there. The fact that you are sampling a living animal filtering over several days, there is a lot more bird activity, perhaps a lot more inputs out on the oyster beds. You have also got the stress of the animal to take into account. So we have had a look at all these and now the aquaculture industry is relaying and taking stock off for grading and they have a separate area so the oysters are left alone unstressed and they are the ones we sample.

The Deputy of St. John:

So when you are sampling, are you doing this over high water or is it low water?

Director of Environmental Protection:

It will be low water.

The Deputy of St. John:

It would be a spring tide, not a neap tide?

Director of Environmental Protection:

I think it is spring. As I say, it is the States vet who does it and I believe it is spring tides where they can get access down into the lower beds.

Deputy S. Power:

Can I ask just a final supplementary question on that then? The test stations that you have got for bathing water, the test stations at Grouville and Green Island, are they as consistent in their results as the rest of the Island in terms of bathing water quality? Do you know if there is any variation?

Director of Environmental Protection:

Within Grouville it is fairly consistent. I have got the results here. We are implementing at the moment the new revised Bathing Water Directive, which is a lot stricter and uses 4 years data, but for Grouville if I just go down, back in the early 1990s it is sufficient, then went to good, sufficient, good, sufficient, good. So since 2004 we have got sufficient and recently the 4 year data set showed it was good. So it is fairly consistent, and fairly consistent again at Green Island. It is related again to rainfall events, so the dry summers of this year and 2 years ago have increased the

quality because you are not getting this wash down effect. You get wet years as we go down.

Director for Environment & Deputy Chief Officer:

You are also getting a marked change in the pattern of rainfall that we are receiving over the last few years. We have had a lot more of what you would consider short, sharp, shock type rainfall events, and they are the ones that are generating a great deal of silt that you will see coming down the roads throughout the catchment. Historically we have not had quite so many of those. So that method of dispersal is proving different the last few years.

Director of Environmental Protection:

One thing we are doing under the new directive is it stipulates you must produce a bathing water profile. So if we take Grouville, you have got a profile there which means that all the potential sources of input of e-coli are mapped, so not every chicken but every chicken holding, every cattle holding, slurry tanks, cattle farms, population, septic tanks, it is all there mapped out. So it becomes a much more predictive model during the rainfall events we can see.

Deputy S. Power:

One thing that occurred to me as you were talking about the testing methodology for bathing water, you mentioned that it tends to be done at low spring tide?

Director of Environmental Protection:

That is for the shellfish.

Deputy S. Power:

That is for the shellfish. So the bathing water quality is tested when?

Head of Water Resources, Department of the Environment:

Any time or tide.

Deputy S. Power:

Any time but it has be, what, top of the beach? On the intertidal convergence or when?

Director for Environment & Deputy Chief Officer:

It is taken out at a metre depth, is it not, by the chaps in wetsuits to be consistent.

Head of Water Resources, Department of the Environment:

Yes, a metre depth and then you take a sample underneath the water at whatever the tide is at the time that you go.

Deputy S. Power:

So if they do it at the same time all the time it is a consistent ...

The Deputy of St. Mary:

It is a calendar time?

Deputy S. Power:

It is a calendar time, is it a consistent date?

Director of Environmental Protection:

Interesting point. We used to, yes. We used to have a set run around the Island. But in our beaches which were failing the problem is that your bacterial loading into sea will get a certain amount of kill off in the sun. So if you do a certain beach at 8.00 a.m. every morning, you are not going to get the sun up and you will not have the kill off. So it is unrepresentative. So now we vary our runs so it is more representative of the whole Island.

[10:30]

Deputy S. Power:

My problem with that is I am trying to look for a consistency or a continuity in the database both for the bathing water and the shellfish. Now, for instance, we have huge tidal variations here in the Channel Islands so if you ... for instance bathing water quality on a neap tide, a fairly static one, might be slightly different to a big spring tide flushing ... you know, when you get 25 per cent of water move in the 3rd or 4th hour, whereas if you have, say, a discharge, an accidental discharge or a discharge from the cavern at First Tower and sluices east and west that is going to affect the readings on the oysters beds 2 or 3 days later and I do not have a clear idea in my head as to how you deal with the consistency.

Director of Environmental Protection:

The consistency, I think, on the bathing water is it is done over all states of tide. At the end of the bathing water season you want a classification of that beach, representative classification for the year. That is more representative of all tides, all times, all conditions. The fact that we are physically constrained by low spring tides to get down to the beds means, as you say, there is greater mixing of tidal influx. It could work both ways. It could mean we are having a greater dilution and more fresh sea coming in. In a rainfall event, however, if the cavern overspills that is a fast track into that area.

Deputy S. Power:

You are down there 2 or 3 days later in a low spring as a result of the sluicing effect through, east bound, you are going to get a strange reading.

Director of Environmental Protection:

Yes, and that is what looks ... well, that is what we need to look at as well. If I can give you an example, with the beach cleaning what historically happened was because you have got the weekend, a nice weekend, and everyone wants to go down to Grouville, then Friday T.T.S. would come down and pile up the seaweed and put it near the beds. Our day for testing of the shellfish beds was a Monday because of low conditions, so therefore 2 days after, ideal in terms of e-coli. You know they piled up this potential mound of maggots and birds and everything and then 2 days after you are sampling. So we are trying to look at all the variables within that context.

Director for Environment & Deputy Chief Officer:

From the bathing water perspective as well, the consistency of approach needs to be such that the information can be made available in as much real time as possible to give an indication to bathers where the optimum places for bathing are. That is something that we will be doing more work on in the coming year to try and get much more real time information out there. But that is one of the reasons why we need to try and take this consistent approach that Tim is talking, to establish that public interface.

The Deputy of St. John:

You have mentioned twice now the piling up of the seaweed and maggots, et cetera, down near the oyster beds. Given they are only uncovered for the spring tide period and only for certain hours over the spring tide, are you saying that in that short period of time we are going to get maggots in that seaweed within 48 hours of it being exposed given that it is already covered within a couple of hours by the tide again? Would there not be a wash off if birds had been on that seaweed and therefore the next time it is exposed the maggots, et cetera, would be cleaned?

Director of Environmental Protection:

You are right, what led to that is that we harked back to that initial closure which was a sample of sand water taken beneath seaweed with maggots. But of course as T.T.S. clean that beach everything is piled up together so all those maggots are mixed up. You are not only going to get seabird activity picking up the old maggot which is left but that pile then contains a mixture of what you had on the beach, which is maggots and seaweed.

The Deputy of St. John:

But when we visited the sites at low water spring all the beds are considerable ... probably half a mile down the beach, probably further, I am not sure, but a long way down, surely the T.T.S. are not cleaning the beach down in that area near the beds. They would be doing it at the top of the tide where the visitors all go on the sandy beaches. That is a considerable distance from the oyster beds, is it not?

Director of Environmental Protection:

Well, what they were doing was of course pushing it down to the low water mark and that is where the piles were, you see, for dispersion by the sea. That was the problem. So T.T.S. were co-operative, they have stopped that practice now.

The Deputy of St. John:

Okay, that has answered that question, thank you.

The Deputy of St. Mary:

Can you enlarge a bit on what you said about if you take a sample at 8.00 a.m. the sunlight has not had time to do its thing? So what is the timing regime on the bathing water testing? Are you going around hoping that the sun will come out? Please explain.

Director of Environmental Protection:

Every Monday, Tuesday ...

The Deputy of St. Mary:

Regardless of the tide.

Director of Environmental Protection:

Regardless of the tide.

Head of Water Resources, Department of the Environment:

Regardless of the weather.

Director of Environmental Protection:

Regardless of anything really, the only thing that could stop us from taking a sample is heavy surf and Health and Safety at Plemont. But between 8.30 a.m. and approximately 12.10 p.m., that is our sampling run. As I say, we vary that between all the beaches to give all the beaches a fair crack of the whip, as it were.

Head of Water Resources, Department of the Environment:

That is driven by the analytical restraints that we have that we have got to do so they have got time to do all the plates, because they have got to do a number of dilutions for each sample that they do. So when they are doing 8 samples a day it is quite a lot of work, it does take a good 3 hours, 4 hours to do that analysis, or the preparation for the analysis.

The Deputy of St. John:

Okay, let us move on. Please can you explain the process on issuing of discharge permits? Who is responsible, et cetera?

Director for Environment & Deputy Chief Officer:

We as a department are responsible for issuing discharge consents. The Water Resources Team are the team who undertake that role.

Head of Water Resources, Department of the Environment:

In what respect?

The Deputy of St. John:

You can give us the process as well.

Director for Environment & Deputy Chief Officer:

Application to ...

Head of Water Resources, Department of the Environment:

Well, we will receive an application from someone, we will have an initial look at the information that they are providing, if there are clear concerns that the information is not good enough to go out to wider public consultation then we will talk to the applicant and look at what they are providing. We will then go out to statutory consultation to Health and Social Services, and then in instances where there is likely to be a significant effect on the environment then we will advertise in the *J.E.P.*

The Deputy of St. John:

So out of that response ... that would cover every discharge to the sea?

Head of Water Resources, Department of the Environment:

Every discharge to the environment, yes. Inshore waters. So that is internal as well as external, so that will be to streams, that will be to groundwaters ...

The Deputy of St. John:

Right around the Island?

Head of Water Resources, Department of the Environment:

Yes.

The Deputy of St. John:

Including issues like P.F.O.S. (Perfluorooctane Sulfonate)?

Head of Water Resources, Department of the Environment:

P.F.O.S. is a slightly different issue; we are talking about controlled discharges. P.F.O.S. is one that is not controlled. It is a historic spill that is essentially diffuse pollution that is going through the aquifer, but it is not a planned discharge or controlled discharge that the actual person doing discharge could do anything about essentially. So if you had an oil spill from an oil tank we could not issue ... we would not want to issue a discharge permit for something like that obviously. Similarly we would not want to issue a discharge permit for P.F.O.S.

The Deputy of St. John:

Fine, we will come back to that later.

Deputy S. Power:

Do you ever have to deal with uncontrolled discharges? What is the procedure then? I remember there was an incident, it must have been over a year ago, maybe a year and a half ago, and diesel ended up in St. Aubin's Bay from at tank leak up Trinity Hill.

Head of Water Resources, Department of the Environment:

We deal with that in terms of ... we treat it as a pollution incident, so we go through the pollution side of the law, not the unauthorised discharge side of the law. So we will go in, look at the mitigation side of things and try and clean up the pollution or force the person who has caused the pollution to clean it up. We will also go through the enforcement side of things where we will look at whether there is any blame to be had in line with our enforcement policy.

Deputy S. Power:

So controlled discharges then, I take it you have a number of clients who regularly ask permission to do a controlled discharge. I do not know who they might be, J.E.C. (Jersey Electric Company), T.T.S. or whoever. But the process is public and it is advertised in the *Gazette*?

Head of Water Resources, Department of the Environment:

Yes.

Deputy S. Power:

What about emergency applications?

The Deputy of St. Mary:

Can I just go back to the normal ones? How many a year roughly?

Head of Water Resources, Department of the Environment:

Not many. When the law was brought in, we probably in hindsight should not have also looked at the domestic side of things because everyone who has got a septic tank and soakaway in the Island should really have a discharge permit. So we tend to pick up probably not more than 15 a year of individual properties who are ... it generally happens when there is a property sale that goes on the drainage database and when someone does a search at T.T.S. they highlight the fact the property has not got a discharge permit so then the legal side of things ... people come and ask us and go through the process. In terms of more industrial related discharges, we do not get that many, probably 3 or 4 a year at most, I would say.

The Deputy of St. Mary:

Give us an idea of what sort of permits? I cannot picture it in my head at all.

Head of Water Resources, Department of the Environment:

I would say this year we have had J.E.C. related discharge and a variation to their permit for the biocide.

The Deputy of St. John:

Can you give us more detail on that one, please?

The Deputy of St. Mary:

Can we just go to the other 3 and then go back? You said 3 or 4, so J.E.C. ... I just want to get a feel for what is going on.

Head of Water Resources, Department of the Environment:

We have had an application from the aquaculture industry for a discharge from their proposed plant. It is essentially sea water going in and sea water coming out with a bit of treatment on it, so it is not a particularly big issue from our point of view, and we will look at that. In some respects it is as much dealing with some of the historic ones and tightening some of those ones up as getting new applications in. So if something is happening in terms of a development and someone needs a discharge for a development, we will look at that if they come to us asking for a discharge permit. If they do not come to us then we will tackle it from a pollution side if we identify that there is an issue.

The Deputy of St. John:

Biocide, you mentioned the J.E.C., does it not kill shellfish, and where is it disposed of at sea?

Head of Water Resources, Department of the Environment:

It will kill shellfish at certain concentrations. We are living in an area that for power generation to work in terms of both the Energy from Waste plant and in terms of the power station, you have got to treat the pipes so that they do not foul up and cause problems with the process.

Director of Environmental Protection:

The whole purpose of a discharge permit is it puts the ball in our court to regulate that discharge and minimise it and minimise the environmental effect. So you have the J.E.C., yes, I think we all accept that we need something to kill off the growth, our job within a discharge permit is to condition it and to work with the J.E.C. is fine but by the end of the pipe we want that to have minimal environmental effects, and how can we achieve that. In the case of J.E.C. we have been working closely and it is even down to the level of: "Well, you are only going to put in the biocide at high water so the plume sweeps away from the Ramsar site" so it is looking at all these factors. To put on firm conditions, reporting conditions and compliance conditions that we can ensure that the end pipe environmental impact is minimised through that necessity of needing biocide in existence.

The Deputy of St. John:

On that point, given that you have treat the pipework - and that is my old business as you will appreciate - once you have entered the biocide into the cleansing system why ... is there another way of collecting that discharge after it has been flushed through and taken to the works at Bellozanne and treated then and returned as clean water to the environment?

Head of Water Resources, Department of the Environment:

There are 2 aspects on that side. One thing is that the way the biocides work within the pipe is that they film out on to the actual pipework itself. So what goes in does not come out in the same concentration. The other factor as well is you might not want to put biocide into sewerage treatment works because you might kill the bacteria

that work in the sewerage treatment works to come out the other end. So it might not work well in terms of that.

The Deputy of St. John:

Yes, but not necessarily going to the sewerage treatment works but there must be ways of cleaning the biocide through, shall we say, a charcoal filter or whatever before going back into the ...

Head of Water Resources, Department of the Environment :

I think the complication on this type of one is the fact that we are dealing with sea water.

Minister for Planning and Environment:

Can I just come in here because I think we are possibly using the wrong terms? My understanding, as Chair of the Ramsar Working Group, is that we were moving away from biocides and there were new chemicals which did not kill the organisms it just changed the conditions by which they could attach themselves or not attach themselves to the insides of the pipes. So I think to suggest that it is only biocides that is being used is incorrect.

Head of Water Resources, Department of the Environment:

Yes, it is fair to say that these chemicals have different ways of acting. Certainly the biocide that the J.E.C. are looking to trial has 2 forms, one is to stop the stuff sticking on and there is a slight toxicology associated with that chemical as well.

Director of Environmental Protection:

But to safeguard that point you made, and what we have done within a condition is to recommend ecological monitoring is done in the pipe so we can ensure there is no mass kill off or we can control what is happening in the pipe. As the Head of Water Resources mentioned, end of pipe ideally no concentration coming out. That is what you are heading for.

[10:45]

Minister for Planning and Environment:

Can I just come in there as well because ideally ... this was the comment I was trying to make earlier in that in having to spend large sums of monies on biocides or chemicals to stop organisms from sticking to the inside of the pipes and fouling them, the actual principle of using sea water as a coolant is not necessarily the best environmental method for taking the heat content from power generation and, indeed, the best way is to reduce the heat content from the loading of the J.E.C. by combined heat and power systems. You put it into housing estates, you reduce the heat content and then you do not have as much a problem. So in essence I feel a lot of these processes, okay, we are looking to see whether or not the department is adequately covering any problems that might fall out from those processes but in essence we are, I think, dealing with the wrong processes up front.

Deputy S. Power:

But we are where we are.

Minister for Planning and Environment:

We are where we are but my interest in this as a political input is to make policies in line with strategies and in essence if there are better methods that can be undertaken by the various bodies who have to deal with problems in these particular fashions, then I think it is incumbent upon the Environment Department and the Minister for the Environment to try and encourage as far as possible the uptake of these newer technologies which are generally more sustainable and environmentally friendly.

Director for Environment & Deputy Chief Officer, Department of the Environment:

From a practical perspective, we would certainly take on board what the Minister has said there but taking on board what you were saying, Deputy, you are absolutely right, the role of the regulator in this instance is to ensure that the "we are where we are" is mitigated and is regulated to the point that there is sufficient robust assurance that the environment damage from the "we are where we are" is minimised.

The Deputy of St. Mary:

I am a bit concerned that - I do not know the title, I have forgotten - was saying the monitoring will be done end of pipe but the effect of a plume is way, way beyond end of pipe so I am just wondering how you ensure that the biocide is not damaging the Ramsar site.

Director of Environmental Protection:

No, exactly. That is the nature of why we did that green dye test, or why J.E.C. undertook it, to see exactly where it went to. Within the permit is a condition: "Tell

us where the edge of the plume is, how far it goes at all stated times and that is your area that should be monitored" so indeed it is encompassing everything.

Minister for Planning and Environment:

Yes, specifically it was something that was called for by the Ramsar Management Working Party to determine the extent to which the chemical concentrations would fall off from the pipe onwards.

Director of Environmental Protection:

That will answer that question.

Head of Water Resources, Department of the Environment:

It is also important to note as well that when water comes out a pipe like that it is heated and there is stratification in the water so it does not immediately hit the seabed where there are organisms which are probably ... not the higher risk the thing that we want to protect the most. So there is an ongoing dispersion and dilution before it gets to that point as well.

The Deputy of St. Mary:

How do you know that the day you chose is a typical average day and the same as all the other days?

Head of Water Resources, Department of the Environment:

The J.E.C. chose a day which was the worst case scenario, a neap tide, so that ...

The Deputy of St. Mary:

So there is the least movement of water? But you do not know what would happen on any other day?

Director of Environmental Protection:

No, they are taking thermal imaging shots from the top of the E.f.W. (Energy from Waste) plant at all states of tide so the neaps and springs are going in and going out. Part of the green dye test, as I mentioned, was to show that during a neap tide, worst conditions, outgoing tide, what will happen to it, will it take it away through the Ramsar site, the heat and ... but they are analysing that at the moment and will come back to us with that report, we will then view it and make suggestions. But we are looking at every conceivable way to minimise its environmental impact in every operational way. You know, it is fair to say the J.E.C. are very much on board with that.

Deputy S. Power:

One final question on that then. The choice of timing to discharge, whether it is biocide or the dye, that is a decision made by the J.E.C. in consultation with you?

Head of Water Resources, Department of the Environment:

We can put any condition we like on the discharge permit. The way we have written this permit is not specifying that it has to be at so and so time but we have written it in such a way that you have got to discharge at the time of maximum dispersal.

The Deputy of St. Mary:

The time of maximum dispersal to me would be a spring tide, you have just said a neap tide.

Head of Water Resources, Department of the Environment:

Well, in terms of when you are discharging the matter, the dispersal day, we are not talking about ...

Minister for Planning and Environment:

It is not saved up for a ...

Head of Water Resources, Department of the Environment:

They are going to have dose on a daily basis to keep it clean, so that is my understanding.

Deputy S. Power:

It would seem to me that if you are working with companies like the J.E.C. or T.T.S. or any company that does discharge and does seek a discharge permit, that it is vital that your department gets the end data as well of the monitoring that J.E.C. does or any other States department. It would also seem to me appropriate that you said that the J.E.C. pick a neap tide because it is a worst case scenario, it would also seem to me appropriate that they look at spring tide discharge so that you see the difference between a neap tide, a slow discharge, and a fast discharge, I think. If you have got that information I think you need to ...

Director of Environmental Protection:

Yes, as I say, they are taking pictures but, yes, you are right we look at it. But just a generalised comment which I feel quite strongly, on the discharge permits or waste management licences it enables you to have that immense dialogue and understand the processes of these discharges. That is of a huge benefit to the environment. The J.E.C. have now employed a chemist, they are spending over £100,000 on this trial. But our knowledge as a regulator, our understanding and our communication with them is of the utmost to ensure that the environment is safe and to ensure that we can think out of the box and think of all these conditions we can then put on to safeguard the environment.

Deputy S. Power:

I am glad to hear that you are saying that rather than the J.E.C. telling you what they are going to do, they are asking your permission, or any other discharge company.

Head of Water Resources, Department of the Environment:

It is also important to note that this is a trial for the year period and then we are going to get a report at the back end of it and we are going to have a look and make our decisions on a form of permit moving forward if that is right way to go. It might not be. We might say: "Okay, well this trial has shown that either it is not effective in terms of the operational needs of the company but it might not be effective in terms of the impact on the environment" so once we get that information through then we will be able to make a more knowledgeable decision on that basis.

The Deputy of St. Mary:

So going back to discharge permits more generally, can you say how many retrospectives you have given year by year in the last 5 years?

Head of Water Resources, Department of the Environment:

I do not know what you mean by retrospective permits.

The Deputy of St. Mary:

Well, discharge permits that allow people to do things they have already done.

Head of Water Resources, Department of the Environment:

There is a number of deemed discharge permits. When the law was first brought in there was a transitional provision within the law that allowed people to apply for a discharge permit and essentially give the regulator a period of time to look through it and make its decisions on it. So there are deemed discharge payments there that we are dealing with. Some of these discharge permits are particularly complex and we are trying to move a lot of these things forward and get the best result for the environment.

The Deputy of St. John:

So could it be put that we are playing catch up?

Head of Water Resources, Department of the Environment:

Yes, absolutely, I would not disagree with that.

The Deputy of St. Mary:

Which law is this? The Water Pollution (Jersey) Law 2000?

Head of Water Resources, Department of the Environment:

Yes.

The Deputy of St. Mary:

Okay. But you are talking about deemed discharge permits which I was not really talking about, I was talking about retrospective discharge permits. Is there a provision in the law to do that?

Head of Water Resources, Department of the Environment:

No, I cannot think of any retrospective discharge permits that we have done, if you are calling them retrospective.

Deputy S. Power:

Could you give us a typical example of a deemed discharge permit that you have had to deal with this year or last year?

Director of Environmental Protection:

It would be the J.E.C.

Head of Water Resources, Department of the Environment:

J.E.C. is ...

Deputy S. Power:

So could you just explain ... obviously retrospective may be the wrong word, could you explain the process as to how a deemed discharge permit is issued? Let us take J.E.C. example, the cavern or whatever.

Head of Water Resources, Department of the Environment:

Because obviously these discharges were occurring before the law came in you have got to have the assumption that you can allow them to continue while you are looking at the processes that they are applying to do. So in the example of the J.E.C. they were doing certain processes that we did not want them to do so over the period of time we have been working with them to try and eliminate some of these discharges or some of these processes they are doing so it does not go out into the environment.

Deputy S. Power:

So a deemed discharge permit is essentially a permit whereby ...

Head of Water Resources, Department of the Environment:

Essentially until we can ...

Deputy S. Power:

... a discharge is allowed under the Water Pollution (Jersey) Law 2000 for whatever reason? You have to literally go with the flow?

Director of Environmental Protection:

Yes, and we have to understand the discharge and issue a permit which can control that allowed discharge.

Deputy S. Power:

So a sudden torrential thunderous downpour, as we have had in the last 15 months, will cause a deemed discharge, you know it is going to come?

Head of Water Resources, Department of the Environment:

Again, that is not a controlled discharge so there would not be a discharge permit for ...

Deputy S. Power:

It is deemed?

Director for Environment & Deputy Chief Officer, Department of the Environment:

No, no, it is neither a deemed nor a consented. That is more likely to be considered a pollution incident if it creates a pollution incident. It is a separate issue altogether.

The Deputy of St. Mary:

Are you telling us then that, say in the last 5 years, there have been no retrospective permits? Is that what you are saying, for the last 5 years you have never given a discharge permit for something that has already happened?

Director of Environmental Protection:

Is your question referring to have we had a pollution incident, that we have suddenly come across a pipe discharging and then they need to apply and we ask them to apply?

Head of Water Resources, Department of the Environment:

I think if we are talking about someone who has been doing something for a period of time and then they decide last year to come to us and apply for a discharge permit, then we treat it as a new application. If we are talking about retrospective in that respect then perhaps they could be retrospective discharge permits.

The Deputy of St. John:

That would be for a soakaway or something similar as you mentioned earlier, I presume?

Head of Water Resources, Department of the Environment:

Yes, you could consider that to be a retrospective discharge permit, yes.

Deputy S. Power:

Let us say we have had heavy rain in the last 24 hours - I do not know how it works, I do not know how T.T.S. works, I do not know how your department works - is there a likelihood that there will be a deemed discharge because of that heavy rain and you will be notified of that?

Head of Water Resources, Department of the Environment:

We would be notified of any overspills from pumping stations, from the cavern, through the permit that is in place for those activities. So there are certain activities ... all the pumping stations have a permit, that basically says that they have to notify us that a discharge is going on. There are certain things that again you cannot do much about. The system is the system and it can only take so much.

Deputy S. Power:

You have to live with that system.

Head of Water Resources, Department of the Environment:

Yes.

Deputy S. Power:

As Environmental Protection, you have to accept that the system is not perfect and you as the regulators have to live with that.

Director of Environmental Protection:

What we do not live with is equipment failure, telemetry failure, pump failure, that is covered on the discharge consent.

Head of Water Resources, Department of the Environment:

The discharge consent is solely for an emergency situation or a storm situation, so if it is a mechanical fault we will treat it essentially as pollution and will investigate it and look at what the problems are, what has been causing it and deal with it that way.

Director for Environment & Deputy Chief Officer, Department of the Environment:

That then takes it into a different realm of the investigation possibly moving into a Law Officers situation where prosecution is the ultimate possibility.

Deputy S. Power:

But unpredicted weather conditions, unpredicted rainfall, such as we have just had, there is a likelihood that in the normal probability there will be a discharge as a result?

Head of Water Resources, Department of the Environment:

Potentially. Yesterday during the rain I contacted Transport and Technical Services to ask what the state of the cavern because we have recently pushed T.T.S. to put a sampling pump into the cavern so that we can sample it. Yesterday it was 7 per cent at about 3.00 p.m., 7 per cent full. So it depends on the ...

Deputy S. Power:

Seven per cent?

Head of Water Resources, Department of the Environment:

Yes, so it depends on the nature of ... at the moment all the ground conditions are very dry and a lot of the water is soaking in. Come January when the ground water levels are a lot higher, there will be a lot of more run off and it will probably spill.

Deputy S. Power:

So you are sampling the cavern itself or the discharge area?

Head of Water Resources, Department of the Environment:

We are sampling the discharge as it goes out. Well, we would like to, we are waiting for the opportunity to get it.

Deputy S. Power:

To get in there?

Head of Water Resources, Department of the Environment:

To get a sample.

Director of Environmental Protection, Department of the Environment:

We are waiting for some significant rainfall to allow it to ...

The Deputy of St. John:

Jersey Water, do they have discharge permits?

Head of Water Resources, Department of the Environment:

Yes, they have got one outstanding deemed permit, which is for the desalination plant, but in terms of full discharge permits, they have got one for their treatment works for the aluminium floc ... and then they got a number of discharge permits for some domestic properties and they have also got discharge permits for the draw ... well it is not the draw down, the scouring which is a term used for removing the bottom sediment loads of reservoirs and some of their catchment tanks.

The Deputy of St. John:

When they are doing the reservoirs, because I am just thinking of what they are doing at St. Ouen at present, that runs out into St. Ouen's Bay, I presume, and it takes everything with it? If they have got machines down there with heavy rain like we had the last few days, it will take a lot of the mud, et cetera, down on to the beach.

Head of Water Resources, Department of the Environment:

Potentially, yes. Ordinarily with all the discharge permits for the scouring we have basically said that you can only scour during certain times of year.

[11:00]

The times of year when it is going to be less detrimental to all the bugs and things in the streams, between essentially spring and early autumn. So I think the period is probably about November to January they can scour their reservoirs. In the example of Val de la Mare they need to do that work at a certain time of year when it is at its driest so they can line the dam without having all the rainfall coming in, because otherwise it would be a continuous pumping operation. Practically they cannot do it, so they have asked for a dispensation to discharge at this time of year. For us to allow them to do that we have made sure they have got various amounts of mitigation in place. They consulted with ourselves, the National Trust and the Natural Environment Team and essentially put in some monitors to check dissolved oxygen which is one of our primary concerns, that it is all right that they have got the reservoir draining that down but the moment you get down to the sediment its low oxygen conditions has potential for that to go and cause problems at St. Ouen's pond

or wherever. We also ensure that they have got sediment traps in place to catch as much sediment as possible and they were also monitoring that. Ideally if you can take as much water out as you can, which they did by preferentially using that for supply, the amount of water that they have got to draw down is a lot less and we've essentially done it so that they can dig out ... we prefer them to dig out the soil rather than spray it down. Certainly La Hague is one of our principal issues for sedimentation because of the catchment and years ago before the discharge permits were in place they hosed the screens to clean them and we have limited that so they do not do that and they dig out most of the soil that is causing the sedimentation.

The Deputy of St. John:

Going back on Val de la Mare reservoir, given that a number of the bore holes are from Blanche Banques below the airport and with the P.F.O.S. run off and the number of bore holes that they stopped using because the P.F.O.S. had contaminated their bore holes, when they have done the scraping or moving the mud, et cetera, from within the Val de la Mare reservoir, has that been sampled to make sure that there was no P.F.O.S. within that given there was water taken from those bores for a considerable period of time before P.F.O.S. was discovered in that area?

Head of Water Resources, Department of the Environment:

They sample the water from Blanche Banques and Val de la Mare, the level of dilution. I think in the Blanche Banques in 5 bore holes it is something like 1 to 2 parts per million and the amount of water that they pump from those bore holes into Val de la Mare and the volume at Val de la Mare would suggest that it is not going to be even detectable within there.

The Deputy of St. John:

Okay, I will come back to that one later. Let us move on. How is the issue of retrospective permits covered under the Water Pollution Law? I think we have probably covered some of that but we do need to cover that a little. Within the law, how is it covered? You have given us a lot of answers about historical ...

Head of Water Resources, Department of the Environment:

We try and take a proactive approach just to deal with the issue. We will make them apply for a permit ... if they are causing such pollution that it is causing a massive impact then we might deal with it under the enforcement aspects of the law, but if it is an ongoing thing that has not really caused a problem but we would like to regularise it, monitor it and put in some kind of finer lines to stop them doing certain types of things then we will get them to apply and then we will deal with it during that process.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Or a risk-based approach.

Head of Water Resources, Department of the Environment:

Yes.

The Deputy of St. Mary:

I am getting confused I think because you are now saying that if someone was to apply then it would become a different animal and you would then have an ordinary permit. You would go through the normal process of doing a permit. I am just ... you

are saying that there are no retrospective ... is retrospective permitting allowed in the law? Is someone allowed to come along and say: "I did this last week, please can you allow it, because it is not really allowed"?

Head of Water Resources, Department of the Environment:

If they are continuing to do it ... if, for example, someone did a discharge of something as a one off then, no, that would not be discharge permit type issue, if it was not a planned, controlled discharge it would not be a discharge permit issue and we would deal with it under the enforcement aspect of the law.

Director of Environmental Protection:

It is up to us whether to issue a discharge permit or not. If we cannot control that discharge through conditions under permit then it begs the question should it be issued a permit in the first place. If we cannot be happy that the level of environmental impact and the level control we have on that discharge is not achievable through a discharge permit through conditions then we have got the right to refuse it.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Is there a specific instance that you ... ?

The Deputy of St. Mary:

Yes, I think in the back of our minds there are issues at Bellozanne where there have been discharges to sea that have not been within what they are supposed to be doing and I just wonder what the whole legal situation is around that.

Director of Environmental Protection:

Well, it then comes under the enforcement wing of failure to adhere to a discharge permit. That then comes in our enforcement policy whereby we can regulate that through formal warning letters or prosecution as the case may be.

The Deputy of St. Mary:

Has that happened in the last 2 or 3 years?

Director of Environmental Protection:

Yes, with the S.T.W. (Sewage Treatment Works) discharge there has been 2 formal warning letters issued for the nitrogen loading of the discharge into the bay. Presently we are compiling a case file to be submitted to the A.G. (Attorney General) on that very aspect. So that is a biting angle of the discharge permit.

The Deputy of St. Mary:

Roughly how long do you estimate for the preparation of the case file to the A.G.?

Director of Environmental Protection:

We have given the A.G. a date of the end of September.

The Deputy of St. Mary:

When was the incident that triggered the fact that you were going to go ahead and prepare a file?

Director of Environmental Protection:

The failure in 2009 and 2010.

Head of Water Resources, Department of the Environment:

It is not individual failures, it is a failure to comply over the period of those 2 years.

The Deputy of St. John:

Will you take over the next set of questions, please, Vice Chairman?

The Deputy of St. Mary:

Yes, La Collette. Can you explain the processes in place for the treatment of leachate at La Collette from both green waste disposal and the ash pits? So run us through that.

Director of Environmental Protection:

We were down on the site on Friday and we had a look at the green waste and I can certainly deal with that first from what I saw and my discussions down there. The Head of Waste Regulation is not with us today. It is a huge concrete platform on which the operation is undertaken, the drainage of that platform then goes into a sealed, quite extensive - which they have just built - lagoon and settlement tanks whereby obviously with the production of compost you need to spray the compost with water to get it working as your trucks or your diggers then turn it over. So the

rain water and sprayed on water goes through a series of 3 settlement tanks, the solids are taken out and disposed of and the actual water is then reused on site. So it is a completely enclosed system. At the moment also T.T.S. are building bunds around the site to enable the vaporisers for the odour issues to then work effectively by spraying on to the mounds.

The Deputy of St. Mary:

Has the huge concrete platform moved in recent years at all or has stayed in the same place?

Director of Environmental Protection:

It has been extended and I believe that was in previous granted planning permission.

The Deputy of St. Mary:

Okay, but it has not moved?

Director of Environmental Protection:

No.

Head of Water Resources, Department of the Environment:

It is also fair to say that any excesses of leachate will be discharged at Bellozanne as well under a trade effluent consent.

The Deputy of St. Mary:

Sorry, can you say that again.

Head of Water Resources, Department of the Environment:

They can only use so much of that leachate within their processes so if there is an excess if, for example, it's hammering down with rain and the lagoon is too full, then they will discharge to foul under a trade effluent consent.

The Deputy of St. Mary:

To foul sewer?

Head of Water Resources, Department of the Environment:

Yes.

Director of Environmental Protection:

The other aspect on that is that we are regularising the waste management licence for the whole of La Collette site, so that activity will be encapsulated under that waste management licence and, again, conditions within that licence on the operational plans. We are at the stage at the moment where T.T.S. are developing a working plan for that potential operation. They will be submitted to us, we will then go through them, ask ourselves the question: "Can we regularise that true condition within the permit to minimise the environmental impact?" and we will then be issuing a waste management licence for the whole operation at the La Collette site.

The Deputy of St. Mary:

How many years have they been making compost down there? Three, 4?

Deputy S. Power:

No, longer.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Five years?

The Deputy of St. Mary:

You are still working on the waste management licence.

Director for Environment & Deputy Chief Officer, Department of the Environment:

They have a transitional arrangement in place under the law in the same way as deemed permits work from the Water Pollution Law. The activity can be reviewed by the department and they can operate legitimately until such time as a new licence is given and if there is no significant changes required to make, material changes, in terms of mitigation in terms of the environmental perspective then they are free to carry on essentially. But we have been working with them over the past years to ensure that the works that they are doing are indeed mitigated.

The Deputy of St. Mary:

Is it a concern of yours that it takes 5 years to not issue a waste management licence, because you have not issued it yet and the law was put in place in 2005?

Director of Environmental Protection:

It would be a concern if we were not down there frequently and having many, many discussions with T.T.S. to ensure that ... the problem with the delay is T.T.S. have moved a long way along the road on the compost site. Now we have got a state of the art bespoke facility, but of course the working plan they put in when they applied for the licence is vastly different from what they are doing on site now. But so long as we as regulators understand that process and have guided them and advised within the process to get that bespoke unit, which we then can licence, I am happy with that as a regulator.

The Deputy of St. Mary:

You said the solids are disposed of. How? From the lagoon.

Director of Environmental Protection:

Into the ash pits, I think.

Head of Water Resources, Department of the Environment:

I would assume that is not likely to contain anything that is that different from compost anyway.

Director for Environment & Deputy Chief Officer, Department of the Environment:

It is predominantly organic material.

Head of Water Resources, Department of the Environment:

So it would not surprise me if it goes back on. We do not know the answer to that.

Deputy S. Power:

You mentioned that with excess removal of the leachate can be diverted into the foul sewer and that goes back then for treatment in the normal way, does it?

Head of Water Resources, Department of the Environment:

Yes.

Deputy S. Power:

Back to Bellozanne?

Head of Water Resources, Department of the Environment:

Yes.

The Deputy of St. John:

What about any spillage because historically you were operating up at Crabbé and you were still having to monitor that area for spillage. Given that they have moved around on the site down at the La Collette from one site to another, membranes and the like are put down as they were at Crabbé and yet we had contamination up there. How is any contamination on the area around the site contained and monitored?

Director of Environmental Protection:

Okay, if I can perhaps answer that. There has been a few spillages, historic use of the site, we had oil spillages and they were treated as a pollution incident and remediation action was taken to solve that. The longer term picture of what is on the site and what

poses a future threat to the environment is being undertaken by T.T.S. as part of their application for a waste management licence, and that waste management licence will say: "Fine, but we need a monitoring schedule to ensure ourselves that the environment is protected." So they have got a group of consultants at the moment who have gone right back to the historic use of the site as far as they can to characterise the likely sources of pollution and the likely pathways of pollution. At the moment, T.T.S. have done, I think, almost 6 months of background data, and quite exhaustive baseline data collection within the site and with what is draining down. At the end of September, they will produce a report on that, which we will review as the regulator, with the ideal that that can then slot straight into our waste management licence. We have been engaged all along in the process. As long as we are happy with that monitoring strategy, it can then move in. What I personally would like to see, as the regulator, is more marine biota samples within that strategy, and that is what we are pushing for, and I think that was brought out in the report, you know, P.C.B.s (polychlorinated biphenyls) and the extent of marine biota to include that, because that is a final question, although some of these determinates are very low to be discovered. You know, if you got a limpet in there for 3 or 4 years then you have got a vehicle there to monitor it. So that is quite an extensive piece of work T.T.S. are undertaking. We are very closely involved, and indeed directing the line we would like that to take, what we would like to see.

The Deputy of St. John:

So when do you draw a line and say: "Look, you have been 5 years now"? When are you going to draw a line just for the permit, because otherwise they can be monitoring things forever and a day.

[11:15]

So when do you issue the licence? Surely there must be a cut-off time, you say: "Enough is enough. You have to issue the licence."

Director of Environmental Protection:

Just to put it in context – the Head of Waste Regulation is not here - one chap issuing licences. We are playing catch up there. What he has done and what we have done is categorise the risk elements of these licences and La Collette is top of their list. We are waiting for T.T.S. to submit those working plans and that monitoring strategy. As soon as that is done then we can sit down and we have got something to work on and we can issue the licence. To answer your question, early next year I would anticipate we would get a licence in there.

Director for Environment & Deputy Chief Officer, Department of the Environment:

But also to answer your question, it is us that says: "Enough is enough" you are absolutely right, but we can only do that when we know what background information they are able to supply that we want, so we are constantly in discussions with them to try and ensure that we have sufficient information to make the decisions that are required before the licences are given, so it is a lengthy process specifically really for a department with one person allocated fulltime to that and another just brought on more recently.

The Deputy of St. Mary:

So moving on to the second half of the question, are processes in place for the treatment of leachate from the ash pits?

Director of Environmental Protection:

Yes. The current process T.T.S. undertake is to take off the ash cell water, particularly those from the open pits, pits that are used to remediate oil-contaminated materials. They need to be open because they catch any leachate going into that receptacle which is going to be pumped off and taken away, and indeed, pits which are being filled on bottom ash and fly ash. So that is pumped off. The overall goal by T.T.S. is to cap it off completely, cap off these ash cells so there is no rainwater coming in, therefore you have got no leachate. Eventually, you get dry matter, and that is the end goal, but you still remain with leachate in these open pits. That is then taken to the works and discharged into the works as part of the treatment process. It was a concern, or it was a potential concern, as regulators, what happens to that leachate within the works, how much is settled out into the source within the works and how much is actually getting discharged, and indeed, what is the comparison of the leachate coming in with heavy metal content from the river and often surface water coming into the works in any case? That was a piece of work which we advised T.T.S. undertake. They got on board, and a group of consultants, Capita Consultants, who have then produced a report. We have commented on that report along the way. We sent it back to T.T.S. and back to Capita, and I think it is fair to say that 11.30 p.m. last night, we got a final copy of that report, so I would anticipate that will become public through T.T.S. But answering the question of what is the effect primarily of leachate into the works, how does that relate to stuff, the concentrations

coming in per cent terms and what is the impact within the bay, we then have the vehicle of the discharge permit to regularise that and condition that within the permit if we wanted to of heavy metal contents and suchlike.

The Deputy of St. Mary:

Do you know what is in the leachate? Do you do any monitoring of what is in the leachate before it is tankered up to Bellozanne?

Director of Environmental Protection:

Yes, T.T.S. have got exhaustive data in terms of that.

The Deputy of St. Mary:

But T.T.S. sample the tanks?

Director of Environmental Protection:

Yes.

The Deputy of St. Mary:

How do you they tell you what is in it?

Director for Environment & Deputy Chief Officer, Department of the Environment:

Through the medium of this report now, which we need to assess prior to the potential for awarding or not a discharge consent.

Head of Water Resources, Department of the Environment:

Well, it is not issuing a new discharge consent, it is essentially a variation.

Director for Environment & Deputy Chief Officer, Department of the Environment:
To their existing consent.

Head of Water Resources, Department of the Environment:

We are going through the process of the variation of their permit and we are going to capture some of the outcomes of this report within that process to ensure that we have got that monitoring it, as I say.

The Deputy of St. John:

I have got one. Given the liquids are taken to Bellozanne and they will be containing such things as heavy metals and the like, what is your department's view on removing the heavy metals and the like and other mercuries, all these other things that go in there, from the discharge before it goes out to sea, or in fact before it even gets caught up in the mud at the bottom of the digesters? Have you got any thoughts of how you would like that dealt with? I know it can happen, but it is expensive.

Director of Environmental Protection:

Yes. That is a view I think we would take on reading the report and what the concentration is and what effect it is having. Certainly if it is having a detrimental impact, then that is an option.

The Deputy of St. Mary:

Sorry, the report was commissioned by yourselves or by T.T.S.?

Director of Environmental Protection:

By T.T.S.

The Deputy of St. Mary:

By T.T.S. and not by yourselves as regulator, because you decide whether ...

Director for Environment & Deputy Chief Officer, Department of the Environment:

We asked T.T.S. to.

Chief Executive Officer, Department of the Environment:

We asked T.T.S. to do the report. As the regulator, we have the power to ask for the information from T.T.S., which we had, and they have had to commission a report because of our request.

The Deputy of St. Mary:

I see, because it is their ash, if you like?

Chief Executive Officer, Department of the Environment:

Yes.

Deputy Chief Officer and Director for the Environment:

That tends to be the way that from a regulatory perspective you want to try and push the risk back to the operator in order for them to supply information to us that is then required under either permit or licence. It is an established regulatory perspective.

Mr. B. Brown:

Can I ask a general question on that? I mean, T.T.S., like any sort of operator, will generate a lot of its own operational data, some of it at your request and some of it for its own purposes. Can you sort of just explain the process about how much of that data is openly available to you as a regulator, how much do you have to ask for and demand and how much of this data is available to you and how it is sort of transferred and used by yourselves?

Director of Environmental Protection:

I think it is fair to say that most data - all data - is available. We can request data under the law obviously, but we do not go down that road, because anything is given to us that we need. Not only that, as the Deputy Chief Officer and Director for the Environment mentioned, if we need to commission a report, if we need a pump in the cavern to sample the cavern water, then T.T.S. will pay for that. You know, they co-operate in that way. It is for everyone's benefit, of course. Certainly our receipt of data, anything we want we get.

Head of Water Resources, Department of the Environment:

We are going to tighten that process up again through the variation to the permits, some of this data we get more often automatically sent to us, rather than have to ask for it.

Director for Environment & Deputy Chief Officer, Department of the Environment:

It is better to establish a sound working relationship with them so that we do not have to go down, as the Director of Environment Protection suggested, the regulatory route of demanding that information, because having come from the operational background myself, as soon as information is demanded of you, then you immediately become somewhat guarded in terms of what you give, so if we can establish a good quality working relationship with not just T.T.S. but all operators, then it is far, far more productive from a regulatory perspective.

The Deputy of St. Mary:

Can you just clarify - it is a minor point, really - but you said a moment ago you bracketed bottom ash and fly ash in the same phrase as if they are dealt with together, stored together. Is that the case?

Director of Environmental Protection:

No, no. Fly ash is far more toxic and potentially environmentally damaging than the bottom ash. Both are contained in sealed cells. T.T.S. have just commissioned ... it is now being filled with the fly ash from the new incinerator and that is very much state of the art. It has got 2 membranes, it has got leak detectors on there. The fly ash is bagged. Basically it is used lime, but it is put into bags and then put into the sealed above-tide cell separately to the bottom ash, which is also put into a lined membraned ash cell as well.

The Deputy of St. John:

Are you happy to see these ash cells in the location they are, given that they are proposing a mountain right on the water's edge, right on the edge of Ramsar? In the

event of an accident, it would create a big problem in the future, and do you not believe that this should be dealt with now and not left over for our children to have to resolve issues of disposing of all this in the future?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think we would, with respect, take the phrase: "happy to see", if you like, out of the equation. We, from a regulatory standpoint, would be concerned if there was a proposal to put such a structure down there without sufficient mitigation. When there is sufficient mitigation, that is when we become more comfortable from a wider policy-based standpoint, which is not what we currently deal with from a regulatory perspective. Then it falls more to the planning side of our departments' ability, if you like, to ensure that there is an acceptability for that to be put where it is proposed, and I know it is something that the Minister and the department have a strong view about.

Chief Executive Officer , Department of the Environment:

I think is fair to say that at the moment, planning permission does not exist to create that headland made out of ash. It is certainly a response the department has already made back to T.T.S. that they will need to demonstrate why that is the only solution for the ash. Its location, it is geographically dependent. Yes, if it is not there, would there be a better place to put the ash if it was just being used as a fill material? Arguably there are probably better solutions on the Island, but it would need transportation, and there are environmental impacts of that. One of the issues that we have raised already is around the reuse of that ash and the quality of that ash to make an aggregate, and ideally we do not see so much of a problem to store it, let us use it

as a material, but then we need the quality of the ash to be high enough to be able to use it as a material. So we are some way away from that yet, because the ash has only just started to be created, so we need to understand what the content of that is. But we are certainly raising that environmental part with them as the operator to say: "Look, literally just storing it in a hole is not the only solution that you can have."

The Deputy of St. John:

I have got real concerns, given what we saw happen in Japan earlier this year, and a big tidal surge, and anything that might happen at some time in the future and that ash mountain that would be created - or is proposing to be created - was to finish up in the sea would be a disaster.

Director for Environment & Deputy Chief Officer, Department of the Environment:

That is exactly the sort of thing that would have to be addressed by the applicant in this instance to appease both the planning and environment side of our operation.

Minister for Planning and Environment:

Certainly I have got concerns, and I do not think - and it is early days yet - we are being told by T.T.S. in the determination of how these wastes should be manipulated and stored. I do not think that the solutions that are being proposed by T.T.S. at the moment represent best available technology at all, and I think from my point of view, I would seek to do everything I could within my ministerial powers to ensure that Jersey and T.T.S. and other departments move towards the better end, the more sustainable end of the environmental sustainability spectrum in dealing with these materials. If we can make a useful product out of them, which I have been assured we

can do, then I am really going to be wanting to have chapter and verse from the T.T.S. Department as to why they would wish to not go in that particular direction before they get permissions or not.

Deputy S. Power:

It would seem to me - just one brief comment - that apart from a tidal wave or a tsunami, the biggest issue is the sheer volume of this stuff over the next 20 years, 25 years. That is the ...

Minister for Planning and Environment:

That is another issue. I mean, there are certain processes that can be applied to render the toxic materials inert and thereby able to be used as an aggregate, and it seems to me somewhat perverse for sponsoring departments not to wish to entertain any moves to try and bring that technology to the Island.

Deputy S. Power:

That is going back to what I said, it seems to me as a department, as the Environment Department, you have now a planning application to deal with the by-product of an E.F.W. plant for the next quarter of a century, and that is a significant amount of bottom ash and fly ash, so any encouragement to T.T.S. to use some of this material to produce ...

Director for Environment & Deputy Chief Officer, Department of the Environment:

Absolutely.

Chief Executive Officer, Department of the Environment:

Yes, which will be a key part of the monitoring and assessment which will need to be provided for that application. It will have to look at the alternatives to the proposal. That is a key part of the Environmental Impact Assessment (E.I.A.), that alternatives need to be looked at. As I said, if the use of technologies is certainly valid, we are starting to up the ante of these upgrades, whether it be on a number of disposals, whether it be ash; we are looking at green waste, we are also looking at asbestos, a number of things, but we are asking for a lot more evidence as to why that is the only solution that has been proposed. I think that is not wrong, to have an open debate of that, frankly. There are a variety of technologies available to deal with certain waste streams. Most come with a different cost requirement, a different amount requirement and so on and so forth, but at least as a government we can then make those decisions in an open manner, understanding what the environmental benefit is versus the economic impact of those.

Deputy of St Mary:

Okay, so moving on to heavy metals, the Panel has been waiting for a report from T.T.S. consultants on the subject of heavy metal processing at Bellozanne and I do not think we have had it yet, which has been held up.

[11:30]

What level of confidence do you as the regulator have about the volumes and concentrations of heavy metals passing through the works and ending up either on land or passing maybe out more into the sea?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think that will be tailored by our understanding of this report that, as you say, has literally just landed on our desks.

Chief Executive Officer , Department of the Environment:

Yes. The report you refer to is the report we have referred to earlier, and a final draft received last evening.

Director for Environment & Deputy Chief Officer, Department of the Environment:

At 10.45 p.m., I think it was.

Chief Executive Officer , Department of the Environment:

So we have not had a chance to digest - if that is the right word - the final report yet.

The Deputy of St. Mary:

Taking the existing situation then, do you have any idea of how much heavy metals are going into the sea from Bellozanne as it now is, and to land?

Director of Environmental Protection:

That was our initial response back to T.T.S. on the first drafts of the report. It was not clear, so I have not read that latest, and I am hoping that that will be clarified. Another area of input of heavy metals into the works is through trade effluent

consents of other discharges to foul sewer under the drainage law and what we have done there is used the discharge consent, or we will be looking at using it. I think we have, have we not, put it into the discharge consent, that we have got the ability to go in and view these other trade effluent consents coming into the works to get a more rounded picture on the heavy metals?

The Deputy of St. Mary:

Sorry, the trade effluent consent is issued by yourselves or by T.T.S.?

Director of Environmental Protection:

By T.T.S. under drainage law.

The Deputy of St. Mary:

They issue trade effluent consents?

Director for Environment & Deputy Chief Officer, Department of the Environment:

Yes, which is primarily around they do not want something going into the sewerage network that is going to debilitate their sewerage treatment works.

The Deputy of St. Mary:

Are you telling us that you do not know as a department what the heavy metal loading is going into Bellozanne?

Director of Environmental Protection:

We do now under the discharge permit. We are made aware of all the trade effluent consents applications coming in.

Minister for Planning and Environment:

Specifically, it was something that I particularly asked for, because we were operating under 2 different laws, one law that we can apply and sits comfortably within environment, and the other one that sits squarely with T.T.S. T.T.S. are allowed to, under their existing law, to determine what they put into their sewerage treatment works, but obviously if they put things in at ... it really depends on where they are putting it in terms of the process, whether it is kind of before it passes through the sewerage treatment plant or afterwards, so I was particularly concerned to know what was coming out of the outfall notwithstanding, and that is why this piece of work has been commissioned.

The Deputy of St. Mary:

Can you just be precise which law is T.T.S.'s law and which law is your law?

Director for Environment & Deputy Chief Officer, Department of the Environment:

Water pollution law is the relevant legislation that we administer.

The Deputy of St. Mary:

Is your law, right.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Along with many others, but the drainage law is administered by T.T.S.

The Deputy of St. Mary:

You said just then that there is the possibility of loadings going into the sea because they somehow come in after the treatment works.

Minister for Planning and Environment:

I was not aware of how the process operated, and I was particularly concerned that if indeed the leachate waters from ash outer cells were being tankered from La Collette to Bellozanne, I wanted to understand the process whereby those waters were cleaned up before being put through the outfall. Quite clearly, I mean, if you are taking waters and you are allowed to take waters under the T.T.S. law to Bellozanne on the basis that they do not wish to kill the bacteria and whatever that kind of ... well, comprises the process, I was wondering whether or not the waters might well have been diverted and just dumped through to the outfall, and in the absence of specific testing, might have constituted a pollution under our pollution law.

The Deputy of St. Mary:

The usual methodology.

Minister for Planning and Environment:

So what we asked for was a further report to be done by T.T.S. under the protocols agreed to define how the process works of transferring leachate waters from La Collette to Bellozanne and the extent to which they are cleaned up before they come out of the outfall.

The Deputy of St. Mary:

Can you tell us exactly - maybe one of the officers could tell us - what is the law that governs the leachate as it goes from La Collette ash pits to Bellozanne, under what law is that happening? Why is it done?

Director for Environment & Deputy Chief Officer, Department of the Environment:

It is done under the auspices of the drainage law.

The Deputy of St. Mary:

All right, and then it sort of becomes a T.T.S. leachate?

Director for Environment & Deputy Chief Officer, Department of the Environment:

From the perspective of ensuring that it does not - well, it is a T.T.S. leachate already - become problematic to the treatment works, then they have to establish a methodology of placing it within the works to ensure that it is going to go through and not detriment either the operations or the back-end process, which is the one we are concerned about. The normal methodology would be for a drip feed at a calculated rate to ensure that the bugs - for want of a better word - are not detrimented. It is exactly what the Minister is requesting, is an understanding how that works for hopefully the layperson. I say, we have not read that yet, but we will be getting stuck into it after this meeting.

Head of Water Resources, Department of the Environment:

It will also greater inform our ability to monitor it at the back end, because understanding the kind of residence times of these types of leachates as it goes through the process is obviously very important in how you monitor at the back end, because we could be taking a sample once a month and missing it, so we should hopefully be more informed on that.

The Deputy of St. Mary:

So at the moment, this question started out on heavy metals ... how much do you think you know about how much heavy metals are going out into the sea and how much is going to land and whether there is an issue there?

Minister for Planning and Environment:

I think prior to this report, we probably did not know very much, but after this report, we will know a lot more.

Director of Environmental Protection:

We had the other advantage of marine biota issues, which I think there are 2 sites in St. Aubin's bay dependent on the report. I mean, we always look to update that and indeed put more marine biota samplings near the outfall should there be a need.

The Deputy of St. John:

Will the report be made available to our Panel?

Director for Environment & Deputy Chief Officer, Department of the Environment:

It is T.T.S.'s report, but once it becomes our property, then it should be open to view.

The Deputy of St. John:

Thank you very much.

The Deputy of St. Mary:

Okay. Do you monitor where sludge cake is disposed on to land and what the concentrations of heavy metals are in the sludge cake and then subsequent conclusions that might be drawn from that as to whether it ends up in the sea?

The Deputy of St. John:

Can I declare an interest here, because as well you know there was an incident some weeks ago, and I will leave the room while this particular item is discussed.

The Deputy of St. Mary:

So sludge cake on to land. What a lovely topic.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Sludge is specifically precluded from the auspices of the waste management law, which is an interesting point from our perspective, because we do get an awful lot of calls in respect of potential for a problem on the fields it is administered. The material is spread to land by T.T.S., and in the event that a pollution incident was generated from that, then we, from our regulatory perspective, would become involved. There is necessity for T.T.S. in this instance or any contractor of T.T.S. to abide by the sludge matrix, which is a code which stipulates rates of feed on to land and depth of cover, just specifically really in place to limit the nutrient content

addition to ensure that there is not going to be potential for pollution to ground waters and surface waters from the nutrient perspective. So that is the extent to which our involvement is in this operation.

The Deputy of St. Mary:

Do you not monitor the content of the cake? A lovely job, but ...

Director for Environment & Deputy Chief Officer, Department of the Environment:

Do we monitor the content?

Director of Environmental Protection:

No, T.T.S., but it is a valid question. It is something we have been gaining an understanding. I think it is through the route of the Diffuse Pollution Project, where we are looking at all nutrient applications to land, because as a regulator, we need to ensure that the sludge cake, for convenience, is not just taken from T.T.S. and plonked on field 112 every time just because it is empty and it is empty for that reason.

The Deputy of St. Mary:

The farmer is happy, yes.

Director of Environmental Protection:

So we are very much in talks with T.T.S. understanding that process, and that is ongoing at the moment. From my initial discussions, my understanding is that the sludge cake is taken by an operator to the farmer. The farmer must then sign a

contract which states that the heavy metal loading content of his soil in that particular field is fit to receive that sludge. That is then mapped into a Jersey mapping layer and the operator then ensures ... or T.T.S. then ensure that the operator is spreading within these areas of contracted fields and not going to the same field over and over again. Even down to the aspect of ... they did try satellite receivers in a tractor to pinpoint exactly where they are, but as I say, we are discussing it through another route, recognising that we need to have an understanding of what is going on, but that system is in place.

The Deputy of St. Mary:

You do indeed. How many years has this been going on, the sludge to land? A long time, as far as I know.

Minister for Planning and Environment:

Since treatment works would have been in place.

The Deputy of St. Mary:

A long time, at roughly 500 tonnes a year. Do you have any ...?

Minister for Planning and Environment:

I do not know the quantities, no.

Director for Environment & Deputy Chief Officer, Department of the Environment:

As I say, it is not something that has historically fallen within our jurisdiction, but it is something there, as the Director of Environmental Protection says, which is being picked up under a separate ...

The Deputy of St. Mary:

So they are depositing over 500 tonnes a year of sewage sludge and you have not been monitoring it at all since it has been started until now?

Director for Environment & Deputy Chief Officer, Department of the Environment:

We have auspices under ... we only are able to operate under auspices of legislation that we have from a regulatory perspective, and the water pollution law, nor the water resources law dictates that we should be involved specifically in that activity. The activity more recently is because we are trying to get involved more with farmers and to try to establish this diffuse pollution aspect of water quality.

The Deputy of St. Mary:

So the answer to the question to what the concentrations of heavy metals might be in the sewage sludge is you do not know? Is that true, you do not know?

Minister for Planning and Environment:

I think there are surveys that are being done, analyses on a regular basis, I am told from the report and they take into account the heavy metal concentrations due to the fact that since we have been taking leachate out of the ash pits and whatever as a component or potential component of the solvents that being returned to land, and

quite clearly there has been a change in working practices which has required consideration of the content, the chemical content.

The Deputy of St. Mary:

This analysis on a regular basis, how far back?

Minister for Planning and Environment:

I am being told from here since 2006 and prior to that, 1986.

The Deputy of St. Mary:

Okay, and that data will be publicly available?

Minister for Planning and Environment:

Well, if we ask for it, yes.

Deputy S. Power:

Can I just clarify, you said that the sludge is precluded, and the distribution and spreading of sludge is precluded from what, the water pollution ...?

Director for Environment & Deputy Chief Officer, Department of the Environment:

From the waste management law.

Deputy S. Power:

The waste management law?

Director for Environment & Deputy Chief Officer, Department of the Environment:

Because it is not technically speaking or it is not legally speaking waste within the auspices of the law. So hence ...

Chief Executive Officer , Department of the Environment:

That is the point we are making, in terms of our control over the process is that we can only control what we are legislatively allowed to control and this is not included as a waste in the law, therefore ...

Deputy S. Power:

Yes, I think that is an important point, that we picked that up, that it was precluded from the waste management law. So therefore you have no regulatory mandate to deal with sludge?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think because also there is a mandate placed upon T.T.S. as the operator to abide by a separate matrix and a code of practice which dictates best practice.

Deputy S. Power:

So far as you are aware, if I can just follow on, do T.T.S. keep a digital mapping system of sludge distribution?

Director for Environment & Deputy Chief Officer, Department of the Environment:

My understanding is they do, yes, yes.

Director of Environmental Protection:

But they have got a big database of it. I mean, our role as regulator is to ensure that we are 100 per cent confident with that process. I have not finalised my discussions, but certainly I can say they have got a database of where and when and the rate it is applied to. They then take the analysis of raw sludge, compare it with the farmer's field sludge and it is all done in a controlled way. That is my initial view, but I have not yet finished my discussions with T.T.S. on the subject.

Deputy S. Power:

But it would seem as a department, as an environment department, you have a loose cannon here in terms of trying to control monitoring, particularly water quality if somebody decides to distribute 80, 90 or 100 tonnes of sludge say in the south-east of the Island or north-west of the Island, whatever, and that has got to have a huge effect, knock-on effect of your rates for the next few weeks and months.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Indeed, if that were being done in an irresponsible way, absolutely.

Director of Environmental Protection:

What we are tying up is that spreading of sludge and spreading of slurry, which is approximately the same, so if a farmer spreads slurry, he has got a farm management

plan, a field traffic light system, his fields around, so red field, no spreading if it is near a stream and likely to be washed down into the sea.

[11:45]

What we as regulators are advising T.T.S. is the sludge operators also use that system. They are outside it at the moment, because they are not cattle farmers and it is not included, but that would be a sensible system for them, and then we have got control of when and where it is spread. As I say, it links in to the Diffuse Pollution Project on that side.

Deputy S. Power:

Yes. I know the Deputy of St. John has referred or alluded to the fact that sludge cake was distributed on his land, and I know from my own experience out at La Moye that it has been distributed on land out at La Moye as well, suddenly and in an unannounced manner, whereas if T.T.S. had a plan ... but it does explain a lot. Anyway, we are where we are, because it is precluded.

Director of Environmental Protection:

Yes, as regulators, we are here, but we are trying to understand the process and ensure that we are understanding ...

Deputy S. Power:

So it is definitely on your radar?

Director of Environmental Protection:

... that process, because it eventually all ties in. What we have done with the operator who spreads the sludge, for example, is given him a layout of the bores so it is not spread near a bore hole, similar to slurry spread.

The Deputy of St. Mary:

But you are telling us that the content of the sludge is basically at present unknown, because you do not have *locus standi* and you do not have a reason for going and testing it and finding out whether there are heavy metals in it.

Director of Environmental Protection:

Well, T.T.S. test it, certainly. They have the long data set.

The Deputy of St. Mary:

That is in that report?

Director of Environmental Protection:

Yes.

Deputy S. Power:

Are we moving on? We will bring back the Chairman.

The Deputy of St. Mary:

You may return. We have finished the delightful topic of sewage sludge.

The Deputy of St. John:

Thank you. Will you take over on the next set of questions, please, Deputy Power.

Deputy S. Power:

Moving from sludge ...

The Deputy of St. Mary:

To the E.U. (European Union).

Deputy S. Power:

... to the E.U.

The Deputy of St. Mary:

You have got all the interesting topics, yes.

Deputy S. Power:

Not necessarily to compare the 2. Obviously your department has to deal with a raft of decisions which come out of recommendations which come out as to what E.U. directives and other agreements are followed. Do you have an overall plan for that? Are you financially constrained? Is there a coherent policy? Could you just tell us how you do that? The reason we ask the question is that we know that Jersey not being in the E.U. has a certain degree of freedom as to what directive you choose to apply and what you do not, and we do not see the clarity there or we would like a kind of a heads-up on that.

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think you use an interesting term: "financially constrained" in that respect, because I think not only are we financially constrained, but we are operationally constrained, and that is going to be improved and has indeed started to be improved by the implementation of the Jersey Brussels Group, which is now tasked with finding in a much, much more effective way where we should be complying with E.U. regulations directives. It is fair to say that we are limited in staff numbers to the point that we have a workload and we are very, very busy undertaking that workload. Trying to establish the direction forward for that workload is something that is done by our existing staff, but realistically should be done by that third party, which is hopefully the ... and increasingly so now the Jersey Brussels Group, the problem being with this new body is that it will no doubt bring to light more and more work that should be brought to our attention, and quite rightly so, you know, environmental improvements are happening all the time. So it is a double-edged sword. We will be passed on the information as to which direction we should be going and what we should be implementing. The flip side of that is do we have the resources to do it, and quite simply, the answer at the moment is no. We are doing our very best to try and accommodate changes. It has evolved, there has been an evolved and risk-based assessment of how we target the specific requirements from the E.U. or specific regulations directives coming out of the E.U. That is how we had to approach it with the staff we have got, with the risks to Jersey, with the specific Jersey-related issues, rather than simply wholly as taking on directives. So no, it is an evolving issue.

Chief Executive Officer, Department of the Environment:

I think it is a problem not just for this department, but also many departments. We have to filter what is coming out of the E.U. and there is huge amounts of legislative changes that come out on a daily basis. In terms of what hits the department, clearly fisheries is an area that we keep up-to-date with because of our fisheries management agreement. That block-books elements of time with law officers, law drafting officers, and that is a big chunk of work. So there are bottle-necks all through the process, not only in firstly flagging up what changes to E.U. directives are coming through or E.C. (European Commission) directives are coming through or whatever it may be, we then need to filter out what we feel is the most appropriate to be progressed here. There are a lot of trade implications under protocol 3 in terms of how we trade with the E.U. and our status within that set of trading arrangements. So we filter out. There are also filters in place in the Law Officers' Department and, if you like, with drafting time as well, so there are vast bits of legislation. For instance, animal health legislation is another area, not directly related to water, but it is changing all the time. We go through our process and by the time we feel that we are probably getting to a stage where we are all up-to-date, things have moved on again in the E.U. and it is a never-ceasing merry-go-round that we try and keep up with. So it is incredibly hard. What we do try and do is prioritise the things that we absolutely think we do need to use the best practice, bearing in mind the legislation we already have in place for that, but I do think we have a big area in terms of new pieces of legislation that the E.C. or E.U. are putting forward, are they relevant to us and are we adding new statutes to our books, and that is where we do really have big resource constraints.

Deputy S. Power:

In terms of the ... I mean, this is couched in terms of the area of water quality and to a certain extent, aquaculture legislation, and I think you have probably answered the question. You obviously do have concerns about the department's ability to keep up and you are going to have to prioritise.

Chief Executive Officer, Department of the Environment:

Yes. We are a small department, one of the smallest budget-wise within the States. I think our reach and our diversity is probably one of the biggest in terms of the areas that we cover, to what we do with the resources. I think it is very diverse, and I think we get good bang for our buck, if that is a good phrase. However, we are operating on quite a thin line, and so when we are talking about doing new pieces of work, and so we are talking about waste licences, and we did have one member of staff and now we have got sort of one and a bit member of staff doing that, and we have added a bit of resource in that area, because we understand that there are pressures. But yes, the cake is only that big, and we all definitely need a piece of cake. Unfortunately, the cake is just not big enough, so with the E.U., it is a really big issue, I think, for the Island as a whole in terms of how we deal with the E.U. matters, because we would be treated like an accession country anywhere else, and in terms of bringing all of our legislative base up to speed with what it should be, it is a huge piece of work. So I think what we do as a department, and I am sure other departments do, we prioritise those matters where we currently have legislation in those areas and we need to keep those bits up-to-date. We do what we can I think is the honest answer.

Deputy S. Power:

Our adviser has briefed the Panel on new bathing water regulations which are coming down the pipe, and we have seen what is happening between 2012 - what will happen, I should say - and 2016 and that brings us back to an area of discussion we had nearly 2 hours ago about what we perceive to be the disconnect between the sampling of bathing water and shellfish quality water. So in terms of the allocation of resources for the future, will you be able to keep up with prioritising the new sampling procedures and the time between 2012 and 2106 for these new tests?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think we are some way towards that already specifically with that directive.

Director of Environmental Protection:

Yes. I mean, as Director, I am committed to try and put in E.U. directives where possible, because I recognise the advantage of it creates thematic working, particularly the marine strategy directive or the water framework directive. Yes, we are constrained by resources, and over the next few weeks, we are going to look at those directives, particularly the water framework directive, and work out what is required and what are the resource constraints. If we just take the bathing water directive, which is the new directive we are working towards, we are on timetable for that one, so that is a win. By 2011, we need to publish these profiles, catchment profiles I spoke about for bathing areas. That is on board. The problem that we face as a team, it is all down to E.P. (Environmental Protection) in the case of the E.U. bathing water directive, where I personally see it as an Island issue. It is a terrific tourism puller of tourists. It has been frequently used in the U.K. to say: "Look, we have got good bathing water standards, publicised by our sign on the beach. You

know, come to Jersey, it is safe and it is clean." It is how we get the Tourism department involved into that equation to share some of that workload and to take on the benefits that these directives then offer. The Water Framework Directive really is the big one which has hit Europe. We have initially done a lot of work in data collection, in establishing the database for water quality data, in defining water catchment management areas for Jersey. We need now, in light of Bruce's recommendations, just to pick up on that and to see where it then fits in with our workload. There is some easy hitters within that, such as the monitoring of chemical high-priority substances, monitoring of the nutrient status of the sea, which probably we can accommodate under our existing budget, but then we get into a much larger and much more resource-intensive implementation of that actual directive and I think we, as the States of Jersey, need to ask ourselves: "What is the advantage of adhering to that E.U. water framework directive? What are the positive benefits if it increases thematic working, if it increases a more holistic approach to the marine regulation?" That is going to be of a benefit and it is something we would like to work towards, but certainly that is the way I would like to go. We are a very, very small team with a very small budget. Our consultancy budget is £20,000 a year, our monitoring budget is £10,000, of which £7,000 is pesticides, so £3,000. We are constantly looking at how we can juggle those facts and figures and manpower and work together as an Environment Department, work across sections and pull in expertise to deliver that, but there will be a resource constraint there on what we can do, but we have got to balance the benefits against not doing that.

The Deputy of St. Mary:

Can I ask a question on that? "Balance the benefits" and then you trailed off at balance the benefits against the costs or against ...

Director of Environmental Protection:

The risks.

The Deputy of St. Mary:

Have you, has the department ever formally assessed the risk of, for instance, poor water quality leading to some kind of incident with shellfish for export or whatever? There is a risk, is there not?

Director of Environmental Protection:

Yes.

The Deputy of St. Mary:

I just wondered if any work has been done on the degree of risk.

Director of Environmental Protection:

On the actual loss of income or ...?

The Deputy of St. Mary:

Reputational risk. It is very, very quick.

Director of Environmental Protection:

Indeed.

The Deputy of St. Mary:

You have said that it can be very, very quick and very damaging, so have you done any work on the risk?

Director for Environment & Deputy Chief Officer, Department of the Environment:

We have pulled together information for the potential of risk, but we would see that as a much wider States of Jersey review, I would suggest. It certainly has knock-on effects to not just the environment but to the economics, and I think we wanted ...

The Deputy of St. Mary:

With respect, I am asking about seawater quality and what the potential risks are of a failure in this area, you know, if you are scraping for budget and you have said you are on the edge of ... you know, it is all you have got £3,000 or something. That does not sound like a lot of money to me, and yet the scale of the risk is slightly more than £3,000, I would suggest.

Director of Environmental Protection:

Well, certainly if the *Good Beach Guide* Jersey fails, for example.

The Deputy of St. Mary:

I was not even thinking of tourism. I was thinking of aquaculture, because we are the Government here, but yes, tourism.

Chief Executive Officer, Department of the Environment:

To be honest, I think it simply is no, we have not fully assessed the direct financial impact to the Island as a whole if water quality failed. We understand that there would be quite a large impact, both financially for the industry, tourism industry and aquaculture industry. Yes, I think it would be fairly easy to do that, because we understand the value of those industries to the Island. The question would be would that risk still relate to your budget for this department?

The Deputy of St. Mary:

Oh, I am not suggesting that for one minute. I am just saying do you ... I am suggesting it. The question was: "Have you done the work?"

Chief Executive Officer, Department of the Environment:

The answer would be no.

The Deputy of St. Mary:

Is no.

Chief Executive Officer, Department of the Environment:

The issue that we have is that, as I said, I think we have got about 26 pieces of legislation we cover across our staff base, and it is just like a balloon, frankly. If we push the resource in one area, it will pop out another area. In the Director of Environmental Protection's team, about 14 staff around, you have got 3 areas to cover, and in terms of water quality, that team is probably about, what, 7, 8 staff?

Director of Environmental Protection:

Five now.

Chief Executive Officer, Department of the Environment:

Five staff. So if there were not any other pollution incidents occurring, those 5 staff could be employed more in the proactive side of the department and do some of that strategy work. However, if there are pollution incidents, certainly it pushes all that work and the team is then in reactive mode. I think that is fairly common across all of our regulatory areas, whether it be the States or whether it be a planning service.

[12:00]

A lot of it is ongoing regulation and yes, as I say, to a certain extent, some of that is internally driven because of what the issues are occurring out there. The actual time we have to spend on strategy, policy making and therefore changing the regulatory regime is always impinged by the reaction work that we have to undertake because of things that are going on. So it is incredibly hard. When we are looking at reallocating resources, it is very hard to reallocate resources without impinging on another statutory area in the department. So it is a very hard balancing act.

Director for Environment & Deputy Chief Officer, Department of the Environment:

As you say, I think it is about the size of the cake and not the split of the cake. We could do with a bigger cake.

The Deputy of St. Mary:

Still, the question was of course whether you had done work on the degree of risk involved and the answer is no.

Deputy S. Power:

I think the Deputy is couching a question: we all saw what happened in July with the Spanish cucumber incident, and the reputational damage to Spain was enormous and it is going to take some time to undo the tangle. That is why the question was posed by the Deputy.

Director for Environment & Deputy Chief Officer, Department of the Environment:

With respect to both, that is why I was perhaps suggesting that it is a wider issue than simply bathing or water quality, because it does bring into question a lot of further issues outside of that.

The Deputy of St. Mary:

I am not saying that it is only water quality ...

Director for Environment & Deputy Chief Officer, Department of the Environment:

No, no, no.

The Deputy of St. Mary:

... what I am saying is there is a risk involved in E.D. and all the other things and have you done any work, scoped that out at all, even just a little desk exercise, you know, 3 hours?

Director for Environment & Deputy Chief Officer, Department of the Environment:

We are more concerned if there is, for example, a pollution incident. It is a pollution incident irrespective of what the net effect of that is to the further environment. We have to investigate that, we have to put all our resources into it. Yes, it can be scaled from our perspective. If you are looking at it from the net effect of pollution, that then is taken into account if we are going to do a prosecution, for example, but from the wider perspective, from the net effect outside of that, then no, the work has not been done.

Minister for Planning and Environment:

Okay. Can I just come in there, because I am saying the regulatory functions are in essence reactive, right? But the strategy setting is obviously it has the potential to be proactive. Now, whether or not the work is done by Environment I think is a moot point, but I think where certainly more work should be undertaken is in bodies who are applying to run particular processes which will give rise to a regulatory function and thereby an open-ended cost should be asked for, as far as possible, by Environment, to justify those risks in terms of assessing the costs and the risks to the wider economy. That is something that we would like to do; it is something that I do not think I am entitled to do as Minister as yet, because a lot of the strategy-setting does sit within other departments and I am taking actions at the moment to try and pull those areas of strategic assessment back to the Environment Department so that we can begin to take a more integrated point of view in assessing what is the best for the Island. But, until that happens, in essence we have things being decided upon in half a dozen different departments and, although we are here as a backstop, if you

like, to ensure that the environment is protected, it is not the only element of the job that is important in my view.

Deputy S. Power:

My final question relates really to public information and freedom of information. Do you believe as a department that the monitoring of effluent and effluent discharges should be made more readily available to the public?

Director of Environmental Protection:

Absolutely. I am a great believer in disseminating that information, we do already to the aquaculture industry. The problem is, it is a wider States issue. Before the website was wonderfully revised, we could put quite a few reports and quite a few bits of data on, which saves the work of my team because they do not get interrupted by: "What is the quality of the water in that particular stream?" or what have you. So, yes, it is all public information, any information we collect under the law in our monitoring programme. We have a database of 360,000 records I think, which is enormously useful to folk, but it is getting that out there under the existing system within the States.

Deputy S. Power:

I think, under freedom of information, in the U.K., as an example, you can type in a postcode, a Royal Mail postcode, and look for a particular problem, issue or discharge in a code and it comes straight up, and Bruce was explaining how it works in the U.K., so it is an aspiration?

Director of Environmental Protection:

We are working towards it in some respects, particularly the farmers, for instance, farm management plans, the information we have: boreholes; farm management plans; soil testings, we are looking to set that up on an external website so the farmer can tap in and get this information, because it is for everyone's use and the betterment of the environment if they know where a borehole is and they can avoid it when they spread slurry.

Deputy S. Power:

So you would be quite happy as a department for water quality right across the south coast, north coast, east coast, west coast, to be up there as a matter of public ...

Director of Environmental Protection:

Absolutely, yes. That is a very strict requirement of the new Bathing Water Directive and something we are working towards, it is getting the mechanisms to deliver that really.

The Deputy of St. John:

Let us move on. It is understood that P.F.O.S. pollution from historic use of the fire-fighting foam at the airport has reached both St. Aubin's and St. Ouen's Bay, and seaweed and some other marine organisms are monitored for P.F.O.S. levels. Can you confirm where the sampling of biota for P.F.O.S. takes place?

Head of Water Resources, Department of the Environment:

Not specifically the location, it is not a requirement of the discharge permit, it is a requirement of the trade effluent consent that was agreed between the airport authorities and Transport and Technical Services. We were involved in that process, it must have been at least 7 or 8 years ago, and the conditions for Transport and Technical Services to accept what essentially is the small quantities of P.F.O.S. water that has been generated by the airport fire training ground through the process of pumping the groundwater below that site; that is trickle-fed into the system from the airport, and Transport and Technical Services required the airport to do 2 things: one was to monitor biota at the outfall, and the second thing was to essentially take up any new technologies and new types of fire-fighting foams to minimise the generation of P.F.O.S. and anything relating to that. So it does fall within the remit of Transport and Technical Services, of what their requirements are of the airport in terms of the monitoring.

The Deputy of St. John:

So, all the regulations to do with P.F.O.S. are dealt with by T.T.S. and not yourselves?

Head of Water Resources, Department of the Environment:

In terms of discharging to a foul system, yes, that is dealt with by T.T.S.; in terms of the general issues of P.F.O.S. in the environment that is something that the airport conducts biannual monitoring in terms of surface water, groundwater in the shale aquifer and ground water in the sand aquifer at St. Ouen, they do this twice a year, they send us the data, they send the data to Health Protection in that respect.

The Deputy of St. John:

So, given there is a culvert in the harbour at St. Aubin's, which has had in the past traces of P.F.O.S. coming out of there, nobody monitors the cockle beds outside the entrance of St. Aubin's harbour, and likewise, as P.F.O.S. is in St. Ouen's Bay, nobody is monitoring the shellfish and the like in St. Ouen's Bay, and given that is a very ...

Head of Water Resources, Department of the Environment:

Sorry, they monitor St. Aubin's Bay and there has never been any detection of P.F.O.S. in that biota. In terms of St. Ouen's Bay, there is not any specific biota monitoring there but the conditions are slightly different there in the sense that it is not quite so easy. For example, the biota monitoring for heavy metals, you rely on certain creatures being there all the time, and within St. Ouen's Bay it obviously has a much bigger tidal range there and it is not the same types of creatures there that you could probably use. It is not to say that it is not a piece that we can push the airport in, it is not ...

The Deputy of St. John:

That concerns me somewhat, given that St. Ouen's Bay is an area that local or low-water fishermen use on a regular basis for collecting shellfish and the like and I am correct in saying it is not being monitored per se?

Head of Water Resources, Department of the Environment:

No, not at this time. It is something that we can push through.

The Deputy of St. John:

Because P.F.O.S., am I correct, does not break down, not easily, if it does it is over thousands of years, and therefore that gets into the food chain and it is of concern.

Director for Environment & Deputy Chief Officer, Department of the Environment:

At specific levels, yes. So the dilution factor of the tidal range there would be a significant factor.

The Deputy of St. John:

All right. So would you support the reduction of the frequency of monitoring of P.F.O.S.? It is understood that they propose to only test once a year in the future, rather than twice as at present.

Head of Water Resources, Department of the Environment:

We are not aware of that.

Director of Environmental Protection:

The airport pay for it and do it.

The Deputy of St. John:

So they do not keep you in the chain?

Director of Environmental Protection:

We have not heard any proposal for the reduction.

Head of Water Resources, Department of the Environment:

We went through a stage, I think it was 2 or 3 years ago, that they were looking at their monitoring regime and they took consultancy advice on that and it was advising them to do more. I think it is probably more a matter of targeting it better; there is not necessarily a huge amount of point in doing every single borehole in the catchment if a number of those borehole properties are now on mains water. We have certain specific boreholes, which are of value, that provide the information that we need then that might be more appropriate as to cutting down the costs, but it is something we need to discuss with them and see which angle they are coming from.

Minister for Planning and Environment:

Can I just raise one point about your diagrams in your report, and your charts, I mean it does show the 3 boreholes that the Chairman is worried about along the perimeter of the St Ouen's Bay area as at 2006 in the case ...

The Deputy of St. John:

Can you give me the page number please, Minister?

Minister for Planning and Environment:

It is pages 68-69. In the case of boreholes 8 and 9, the concentrations as at October 2006 were down to pretty low levels, in fact you are indicating numbers near to zero concentration, and the 115 borehole, again in 2006 was down to 0.5 micrograms per cubic ...

The Deputy of St. John:

Yes, I appreciate the levels are dropping, but it is still of concern.

Minister for Planning and Environment:

The point is, if they had reached pretty well zero by 2006, if there is extra sampling that has taken place since 2006 to 2011, you might well be reading them at zero. This shows that the transport of the P.F.O.S. along the pathways to those particular boreholes has flushed the whole system and it is no longer an issue.

Director of Environmental Protection:

Any proposed reduction I think would need our agreement and we would look at that.

Minister for Planning and Environment:

The other issue that I would like to raise is from a mathematical point of view you have analysed it and put a regression line as a straight line, which does not adequately explain the transport mechanisms for P.F.O.S. throughout the underground systems to the boreholes where the sampling has been taken. You can see that by your coefficient determination, which they should be close to one if you have a straight-line relationship, and they are nowhere near. So that is a sound indication from a mathematical viewpoint that the straight-line drop-off does not adequately describe the transport of P.F.O.S. in the way that it is perhaps being suggested by the trend lines.

Mr. B. Brown:

I would just like to add that the trend lines were only put in there for indication purposes, they are not there to suggest there was any linear drop-off. It would be very

surprising, given all the variables that affect it, including the errors of measurement for P.F.O.S., which have been significant, if there was anything like a linear drop-off.

Minister for Planning and Environment:

Absolutely; that is what I am saying, yes.

The Deputy of St. John:

It is of some concern to the Panel that monitoring of heavy metals content in local waters is relatively limited in scope and some toxic substances are not monitored at all. Do you agree that more work needs to be done in this area?

Director of Environmental Protection:

Yes.

Minister for Planning and Environment:

Yes.

The Deputy of St. John:

That is a nice easy one.

Director of Environmental Protection:

Particularly with mercury, P.C.B.s (Polychlorinated biphenyls), B.F.R. (Brominated flame retardants); at the moment we are looking into prices of that in the U.K., certainly the States analysts can do mercury, we will include that service.

The Deputy of St. Mary:

You will be monitoring live organisms rather than water, or as well as water?

Director of Environmental Protection:

The marine life; that is right.

The Deputy of St. John:

Now mercury and other chemical substances such as P.C.B.s are commonly found in old landfill sites such as the destructor at St. Peters and the Mont Mado dump. Is there any ongoing monitoring of such sites for pollution by toxic chemicals, as opposed to microbiological quality at nearby outfalls?

[12:15]

Director of Environmental Protection:

As I mentioned, T.T.S. are on the case for La Collette landfill for that. As regards the other sites, no, there is not. We have taken on the recommendation that we need to risk assess the potential availability of these chemicals throughout the environment and develop a monitoring strategy based on that. So the P.C.B.s and B.F.R.s will be included on a risk-assessed basis similar to that, we will pick up on that.

The Deputy of St. John:

Given that there is an outfall at Bonne Nuit, which comes from Mont Mado landfill, which the Mont Mado landfill must cover 50 acres, 50 vergées, it is a huge area, and it was a substantial depth, probably 100 metres or thereabouts in the various quarries

that were there, and everything that you can think of went in those landfills, in their entirety, and at times of heavy rainfall in the winter it is not uncommon to see the bay at Bonne Nuit go orange/red, when there is a flush-through, and nobody has ever monitored, in recent times, monitored that outfall.

Head of Water Resources, Department of the Environment:

The drainage situation is quite confusing for that area, and we have done a little bit more recently to try and establish some better records, but unfortunately records are not particularly forthcoming from the people that we have asked. The nature of the surface water system that goes from there, it was put in, I think, in around the late 1960s, 1968 or something.

The Deputy of St. John:

1967 I think it was.

Head of Water Resources, Department of the Environment:

It seems to occur when, there is a drain in the hedge, when that blocks it seems to overflow and go into the surface water system. We have done some monitoring on 2 occasions that we have been notified about it, and one of which ... again the monitoring is quite difficult because by the time we reached there it was a bit too late in the day so that we could not get a sample of what was coming out of it. It is not entirely clear whether that is coming from the bottom of the landfill, the middle of the landfill, or from the quarry site next door as well, so it is an area that ideally we would like to do a bit more work to get a bit better understanding of what is going on there.

The Deputy of St. Mary:

When you say it is an area that you would like to do a bit more work, maybe could we hear what that means; will the work be done, will there be a budget found for what is going into Bonne Nuit Bay?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think from a generalist perspective, there are many, many areas where we would like to do a lot more work, it is a classic case of, with more, we could do more, in terms of environmental protection, and it was already alluded to, the analogy of a balloon, you poke one side and the other side comes out, but it is ...

The Deputy of St. Mary:

That is why I asked the question about risk and about how on earth you can decide whether or not to look at the Bonne Nuit outfall and whether it really matters or whether you have to find another £10,000 or whether you can go: "We will not bother." If you assess the risk and the costs and benefits of doing these things, you might be in a better position to shout for more money.

Director of Environmental Protection:

I think that you are absolutely right, and that was a recommendation we take onboard in the report, again under the Water Framework Directive of identifying this big list of 33 priority hazardous substances, and we have started that process of undertaking the risk assessments, so we would look at that and look at the likely components within that and then sample on that, to offer the best use of resources.

The Deputy of St. John:

Has there ever been an audit of these historic sites or specific monitoring for P.C.B.s, et cetera? It is understood that these substances can move very slowly through the ground depending on the local geology.

Director for Environment & Deputy Chief Officer, Department of the Environment:

There has been an audit of where the sites are.

Director of Environmental Protection:

Yes, the British Geological Survey did an audit of historic waste sites, which we have, and I think that will be an important element to feed into that risk assessment.

The Deputy of St. Mary:

Will you be looking at all those sites?

Director of Environmental Protection:

We will initially risk assess them, yes, we need to see what likely contaminants under the Water Framework Directive we need to be looking for.

Director for Environment & Deputy Chief Officer, Department of the Environment:

There are, from my recollection of that report, a significant number of sites, which started off as being the central tip area within a small hamlet, which then filled up and

then expanded to the outskirts of said small hamlet and became a bigger tip and then centralised, the likes of Mont Mado thereafter. So, within each parish, there is quite a significant number of options to look at. So, yes, it is a risk assessment of these numerous options.

The Deputy of St. John:

Let us move on again. Can you give us an update of the current situation regarding the nitrogen levels in St. Aubin's Bay and any action taken to address this? What is the status of the case file? That was understood to be in preparation re total nitrogen output from Bellozanne. Is this now on hold?

Director for Environment & Deputy Chief Officer, Department of the Environment:

No, it is on the go.

Director of Environmental Protection:

Very much working on that case at the moment. C.R.E.H. and David Kay's team came over and again did a piece of work requested by us but funded by T.T.S. on the sensitivity of St. Aubin's Bay. The initial report, 1997 if I am right, indicated that St. Aubin's Bay was sensitive, and of course under the Urban Waste Water Treatment Directive that any effluent has a compliance point within that condition. T.T.S. had been working on the works trying to get that nitrogen level to comply with the permit; have also considered requesting a variation of that permit. As regulators, we cannot just vary the permits; it has to be based on evidence, so we requested that they look into the apportionment of nitrogen into St. Aubin's Bay from outfalls and from the

works. That had not changed over time; there was an updated report and it was about 50/50. They then undertook a re-survey of the eutrophic status of St. Aubin's Bay and that was produced in 2009/2010, which suddenly found that St. Aubin's Bay was not sensitive, so under the Urban Waste Water Directive then they do not need to apply to 10 mg per litre. However, that change in status, nothing has changed, only the methodology of that survey has changed, so it is a paper exercise; the dynamics, the acceptance of nitrogen into the bay, has not changed. T.T.S., now we are undergoing discussions with them, what does that mean? Does that mean then they can take out the de-nitrifying plant and get the whole plant to work more efficiently in U.V. kill rates and less storming events, in order to better the environment and better lower the cost of treating sewerage and get the works to perform better on the back end of just that one report? Obviously, as regulators, it rang alarm bells, it is more than the one report, there are a host of other factors, shellfish beds, bathing waters, Ramsar sites, growth of sea lettuce, changes in ecosystems, and in some ways they are encapsulated by the Water Framework Directive and the Marine Strategy Directive. So we then produced a position paper back to T.T.S. after several meetings saying: "Fine, we accept the eutrophic status is done, but that is only one part of that very large and complex equation, which relates, not only to the engineering works within the works of what happened before the de-nitrifying plant and everything, but also the ecological change that can be expected." So that is where we are at the moment. But to me it shows the importance of the Water Framework Directive and the Marine Strategy Directive and we are looking at everything in a more holistic approach, rather than just the nitrogen status within the bay itself. So it is very much an ongoing piece of work; it is a highly-complex area, we have identified quite a few gaps within the information we need and I think tomorrow we are going to meet together with

T.T.S. to try to sort out how T.T.S. can move forward with our input and advice on that one.

The Deputy of St. John:

It is a matter of considerable disappointment to the Panel that, despite promises that we would finally be briefed on the circumstances of the alleged environmental incident at La Collette in April 2009, this has still not taken place. Can you summarise the timelines involved, i.e. when the incident took place, when it was reported to yourselves, when your department attended the site, how long the investigation took, and when the case file was completed and passed to the Law Officers?

Director for Environment & Deputy Chief Officer, Department of the Environment:

We can tell you when it was completed and given to the Law Officers, but our advice that we are waiting for in terms of what else can be disclosed thus far, which is preceding those, we cannot give to you.

The Deputy of St. John:

Not even the timeline?

Director for Environment & Deputy Chief Officer, Department of the Environment:

No, sorry, it is all part of the investigation.

The Deputy of St. Mary:

So when the incident took place is April 2009, so I have answered that question, so that was not very confidential, and then when it was reported?

Director for Environment & Deputy Chief Officer, Department of the Environment:

We cannot give ... without contravening our advice from the Law Officers at the moment; we cannot give any other information.

The Deputy of St. Mary:

This is a bit odd, because the Law Officers have written to Ramsar, or they have written to somebody, saying: "We will not prosecute this, we will not take this further." So you are saying that this data will stay forever in the books?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I am not saying that, all I am saying is that at the moment we are waiting for advice from the Law Officers as to what can and cannot be divulged or disclosed. We are only able to operate under specific parameters and I am afraid that is the advice that we have at the moment.

Deputy S. Power:

So you are saying that, because it is an open legal case, it is *sub judice*?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I am saying that it has privilege; the Law Officers are intent on advising us as to the limits of what we can divulge, whether it is *sub judice* at the moment in terms of its openness, the case file is now closed, they have determined that there was no material pollution and they have also determined that we, as a department, have done the job that we needed to do under the law, but we are waiting for advice at the moment as to what can and cannot be divulged.

Deputy S. Power:

All we can do is wait.

The Deputy of St. John:

We obviously have to close our file on this at some time.

The Deputy of St. Mary:

But it is extraordinary; would you agree that it is odd, from our point of view, when we cannot even establish what happened, when? We cannot even find out when it was reported and when you attended the site and how long the investigation took, I mean that is not even about the facts of the case or what you discovered or whether so-and-so was interviewed.

Director for Environment & Deputy Chief Officer, Department of the Environment:

With respect, it may well be about the facts of the case, and that is what I simply cannot divulge at the moment.

The Deputy of St. Mary:

When you turned up to have a look and talked to people?

Director for Environment & Deputy Chief Officer, Department of the Environment:

Yes.

The Deputy of St. Mary:

So we are left with this mystery of something that took one and a quarter years, I think, to get from the incident to the presentation of the file to the A.G., and we have absolutely no idea what happened in that 15 months, just a very long cup of tea?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I can assure you it was not a very long cup of tea, but that is as far as I can assure you at the moment. We are, as I say, we are waiting for advice from the A.G. as to what we can let you know.

The Deputy of St. Mary:

All right. Yes, various section of different departments are involved in some way with aquaculture and water quality issues, and the list is: Environmental Protection; Fisheries and Marine Resources; the Vets section; the States Analyst; Health

Protection; T.T.S.; and Economic Development. It has been suggested to us that this may lead to some potential confusion over responsibilities and that the industry and public might be better served if there was one port of call for these matters. Do you have any comments on that and do you feel that this multiplicity of agencies, how can you pull them together better, or is the situation all right?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think each agency or body forms its own specific remit and delivers its own specific remit. I think the aquaculture strategy is intent on bringing together those bodies, including stakeholders from industry, to try and establish a coagulated way forward. So I would not necessarily say that the system is broken, but I think there is an improvement to be made through a more targeted or a more strategic approach.

Minister for Planning and Environment:

I also kind of expressed comments earlier to the effect that I think there would be a direct benefit in going in this direction. I mean certainly moves are being made to bring, as I mentioned earlier, various areas of environmental strategy setting back to the overall remit of the Environment Department. I think I would much prefer, and I think the Island would much prefer, to have all of its environmental eggs in one basket rather than in half a dozen baskets and different eggs ...

The Deputy of St. Mary:

Where do you suggest the environmental strategy is held up at the moment?

[12:30]

Minister for Planning and Environment:

Fisheries with E.D.D. (Economic Development Department), aquaculture with E.D.D., air quality with Health Protection Services, waste management strategy with T.T.S., sustainable transport policy with T.T.S.; and that is just a few of them.

Deputy S. Power:

It has been suggested that the official position statement regarding Jersey's water and shellfish quality, and we need a strategy for that, it would be helpful to have an agenda going forward to achieve a higher water and shellfish quality. Do you agree?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think we are looking to establish that higher water quality all the way, and I think that is what the Director of Environmental Protection's team are intent on doing through their combined approach with the Water Framework Directive and this report is an extremely useful pointer for us in that respect, so I would not disagree that this is ...

Deputy S. Power:

So could we expect a position statement as to where we are now and a strategy as to where you want to be in 2, 3, 4 years, because it is not clear to us, it is not to clear to us, water quality in terms of sea bathing quality, water quality, and the information we are getting from the oyster ...

Minister for Planning and Environment:

I think there is the potential for that to come forward earlier and every 3 years, as you know, the States sets out its strategic objectives and I think the next opportunity is on its way, and certainly, if I am in the job, I will be making attempts to put in those environmental considerations to move the Island towards being seen as a greener place, which is in line with the thinking of the States at the moment, to a greater effect.

Director for Environment & Deputy Chief Officer, Department of the Environment:

That combined with the *State of the Environment* report, which is due this year; that will essentially form the baseline moving forward that the Minister has suggested.

Deputy S. Power:

It seems to us as a Panel that the position as to where we are at the moment is not clear and if we go back to the earlier discussion about transparency, we need to be clear where we are and where you want to take it, and then the whole of the tourism industry, Economic Development, and the shellfish industry, will know what your aspirations are as an Environment Department.

Chief Executive Officer, Department of the Environment:

I think that is right; it is something we have been discussing with the Minister in terms of what is our environmental journey going to be over the next 3-5 years, and I think it is very important. Many things we do with the environment have a 10, 20, 30-year

time horizon, but I think it is certainly very important we put down, if you like, our environmental manifesto about what we are trying to achieve over the next 3-5 years. I think we can tie that within our business planning, medium-term financial planning, and our strategic plan as well. So certainly the environment is going to get a bigger theme in the strategic plan, and that is certainly where we are trying to aim for.

Director for Environment & Deputy Chief Officer, Department of the Environment:

Then that also widens it from simply the water aspect; we have much greater aspirations in terms of the various other areas we deal with.

The Deputy of St. Mary:

Can I ask, on an environmental manifesto, it sounds good, will stakeholders be around the table, not only agreeing where we are going, but even where we are? Because, what we heard yesterday, and what we have heard today are 2 different things, about even where we are, and the trajectory over the last few years, which is, it is getting worse, the sea quality, and, no, it is not getting worse. So, if we cannot even agree where we are, how the hell are we going to agree where we are going?

Director for Environment & Deputy Chief Officer, Department of the Environment:

I think that is exactly what we are trying to establish by, for example, the formation of an aquaculture group or a representative body. In this instance, we are in regular discussion, we have had one major meeting with that body so far, but we are in regular discussion with other stakeholders to try and establish a commonality in opinion across the board. So there is work to do, do not get me wrong, but it is

something that we as a department are keen to do, is to get that interface with all these stakeholders, Ramsar management, we are putting the forums in place to try and establish that.

Director of Environmental Protection:

It is early days but we have already had an aquaculture strategy day with the industry and that will be written up, but it very much has the input from the industry, as well as ourselves, to mark that way forward as we go on from there.

The Deputy of St. Mary:

Can you make a commitment then now that the writing-up, which is important, the writing up, the minuting, the agendas and all the rest of it, will be formally agreed by everybody so that this records that this was the discussion, this was what we agreed or did not agree, and all the rest of it, because it can very quickly go pear-shaped and it would just be nice to have a body that everybody trusted, because otherwise you are not going to get the agreement, you are not going to go forward.

Director for Environment & Deputy Chief Officer, Department of the Environment:

That is it right; there are representatives, you will deal with the representatives of the various bodies sitting in these fora to establish exactly that, you are absolutely right. So yes is the short answer to your question.

Deputy S. Power:

It would be nice to see that, because, in terms of the Ramsar Management Authority, you have a piece of complex kit sitting right down there on that area, you then have

the shellfish quality, which is the water is measured differently to bathing water quality, so it is not clear, the whole lot needs to be brought together and I think that will be very useful to see as a department you will bring that forward, because it is far from a clear picture.

The Deputy of St. John:

Any other questions, gentlemen? Deputy? Bruce? Have I forgotten anything? Have you anything further to add, gentlemen, that may be of benefit to us? No.

Deputy S. Power:

If the Minister is happy with the penetrating questions then ...

Minister for Planning and Environment:

Certainly, yes.

The Deputy of St. John:

If not, I would like to thank you for the time given to us this morning and declare the meeting closed at 12.35 p.m. Thank you very much indeed.

[12:36]