



## **Environment Scrutiny Panel Waste Water Strategy**

**WEDNESDAY, 6th May 2014**

**Panel:**

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

Deputy S.G. Luce of St. Martin

Deputy J.M. Le Bailly of St. Mary

Connétable P.J. Rondel of St. John

Mr. D. Morris (Adviser)

**Witnesses:**

The Minister for Planning and Environment

Director for Environment and Deputy Chief Officer, Department of the Environment

Business Manager

Director for Environmental Protection

[13:30]

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

Good afternoon and welcome to this afternoon's scrutiny hearing of the Environment Scrutiny Panel and welcome to representatives from the media and members of the public. We have a slightly unusual format today. Obviously we are seeing both yourself, Minister, and your team

followed by the Minister for Transport and Technical Services to conclude the review that we have done on Jersey's waste water strategy. Of course, we are here at the end of work which has been done by our external consultant and he is with us today, Mr. Dylan Morris on my right, senior engineer from AECOM, international engineers and design consultants, who have had the opportunity to visit the plant and to examine all of the relevant documentation produced by T.T.S. (Transport and Technical Services) for this strategy. What we have also asked them to do is to review the list of comments that you, Minister, and your team had put forward, of the issues and questions; to look at that and see whether all those issues were responded to in the T.T.S. documents. From that, we have been given a set of issues that arise which we want to talk to you about today. So, before we do that, I will introduce the rest of the members of my team. Deputy John Young, Chairman of the panel.

**Deputy J.H. Young:**

Minister, thank you for coming along. Could you introduce yourself, for the record, and the members of your team, please?

**Deputy J.H. Young:**

Thank you very much. Minister, I want to begin by just mapping out issues arising from your regulatory role. In the late 1990s Jersey published an *Environmental Charter* the States approved that and there was the previous *2000 and Beyond Report* to do with the Standards in Jersey Law for the environment. Would you like to remind us what that commitment was?

**The Minister for Planning and Environment:**

In what particular regard?

**Deputy J.H. Young:**

Well, perhaps to help you, it is whether or not we are simply required to meet domestic legislation or U.K. (United Kingdom) legislation or E.U. (European Union) legislation equivalent standards.

**The Minister for Planning and Environment:**

I think as far as far as possible we try to meet with the E.U. standards. Although we are not, as you know, members of the E.U., but those standards do, in my mind, represent the best standards that we should be aiming for.

**Deputy J.H. Young:**

Minister, would you accept as a principle that if we are proposing to invest some £70 million on a sewerage plant or £200 million for the whole strategy, if you look at it, that it would be right that that project meets the very best environment standards?

**The Minister for Planning and Environment:**

I think that is undoubtedly the case and in particular with respect to future-proofing the investment.

**Deputy J.H. Young:**

Thank you, Minister. One of the issues that arises is the situation regarding the standards of the effluent which ultimately is put into St. Aubin's Bay. Could you tell us about what standards apply in that bay so that we can be clearer about the standards that the plant are required to meet now and in the future?

**The Minister for Planning and Environment:**

Yes. It is a technical question. It is broadly of the order of 50 milligrams of nitrates per litre and the suggestion is that, for populations that go above a certain size, then further restrictive measures might well be required under E.U. law in order to reduce those nitrate inputs.

**Director for Environment and Deputy Chief Officer, Department of the Environment:**

Can I just ask Tim to clarify some of the numbers on that, the nitrates?

**Director for Environmental Protection:**

Yes. The present standards for the current sewerage treatment works, the discharge permit specifies limits on suspended solids, biological oxygen demand, chemical oxygen demand and total nitrogen and that limit at the moment according to, as the Minister correctly states, the population equivalent of over 100,000 people is 10 milligrams per litre.

**Deputy J.H. Young:**

Of nitrates?

**Director for Environmental Protection:**

Of nitrates, total nitrogen.

**Deputy J.H. Young:**

What is the standard now?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

Fifty.

**Deputy J.H. Young:**

Fifty? What is the current consent on the current works?

**Director for Environmental Protection:**

It is 10 milligrams per litre on the current discharge permit for the current works.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

Fifty is the W.H.O. (World Health Organisation) concentration limit for nitrates in water.

**Deputy J.H. Young:**

For drinking water?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

Yes.

**Deputy J.H. Young:**

So we have a limit for drinking water of 50 milligrams and we have got a limit on what can be discharged into the bay of 10 milligrams?

**Director for Environmental Protection:**

That is correct.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

That is correct.

**Director for Environmental Protection:**

That is according to the Urban Waste Water Treatment Directive.

**The Deputy of St. Martin:**

How do you come to the conclusion that those 2 numbers are in any way numbers that can work together when on one hand you are accepting that drinking water is 50 but you are expecting T.T.S. to pump it out into the bay at 10? Does that not seem too difficult?

**Director for Environmental Protection:**

No. The 50 milligrams per litre is based on the World Health Organisation's European limit and that is set at 50 according to health reasons. The 10 milligrams per litre is based on the Urban Waste Water Treatment Directive and that primarily relates not to human health but to health in the ecosystem. There is a measurement or survey work which classifies St. Aubin's Bay either as sensitive or not sensitive for eutrophication. That means that excess nutrients into the bay if it is sensitive will cause eutrophication or an increase of what we see as the green seaweed coming through. That is why the limit is based on 10, because the 1997 survey of the bay indicated that

the bay was eutrophic. That survey was repeated in 2009, over 2010, and it indicates that it is not eutrophic at the moment. So strictly for the current status as it is at the moment, one could argue that that 10 milligrams per litre no longer applies because the outer bay of St. Aubin's Bay and the receiving waters is classed as not eutrophic according to the latest standards under the Urban Waste Water Treatment Directive.

**The Deputy of St. Martin:**

Is there a direct correlation between the eutrophic and non-eutrophic and the level that you are allowed to discharge?

**Director for Environmental Protection:**

Indeed.

**The Deputy of St. Martin:**

So there is a standard for eutrophic?

**Director for Environmental Protection:**

Yes.

**The Deputy of St. Martin:**

What is it for non-eutrophic?

**Director for Environmental Protection:**

It would not apply if it is not eutrophic.

**The Deputy of St. Martin:**

It does not apply at all?

**Director for Environmental Protection:**

It does not apply.

**Deputy J.H. Young:**

How do you explain the fact - can you explain it - that in 1997 it was regarded as eutrophic and you say it is not now?

**Director for Environmental Protection:**

We follow European best practice and, of course, that best practice over time changes as science becomes more exacting. The change was really due to the change in methodology of the C.S.T.T. standard.

**The Connétable of St. John:**

C.S.T.T. being?

**Director for Environmental Protection:**

I forget the acronym, but it is a scientific methodology used to assess whether receiving water is eutrophic or not eutrophic. It is quite an exacting standard. Professor David Kay from the Centre for Research into Environment and Health did that work for T.T.S. but because the methodology had developed and was more exacting then, according to the latest methodology, it is not eutrophic.

**Deputy J.H. Young:**

I am going to ask Mr. Morris to come in on this, please. If you could follow that up, because I think I want to be clear as to whether or not we can be confident that for the future this bay can be treated as not a eutrophic bay and, therefore, not required to meet these standards. I want to be clear about that.

**Mr. D. Morris:**

What I understand from that is there is ongoing work with regard to the classification of St. Aubin's Bay.

**Director for Environmental Protection:**

That is right. We have adopted the Water Framework Directive, which is a further European legislation or directive pushing the boundaries of the Urban Waste Water Treatment Directive. That looks at not only the chemical components out of the end of the pipe but also the chemical and ecological factors within the bay. What we have to assure ourselves of as regulators is that, although it is classed as being not eutrophic, the bay is still in fact marginal because in 1997 it was and in 2009 now it is not anymore. We have to assure ourselves that any nutrients will not negatively impact the receiving environment. The essence of the new Water Framework Directive is very clear and it says: "Whatever you do, the receiving environment should not deteriorate." So when we replace the works it should not cause any deterioration in the ecology or the functioning of the St. Aubin's Bay environment.

**The Connétable of St. John:**

So it has constantly achieved your 2 levels: your 50 and your 10?

**Director for Environmental Protection:**

At the moment T.T.S. are failing the total number.

**The Connétable of St. John:**

They are failing it?

**Deputy J.H. Young:**

What are the T.T.S. current levels? What are the current levels going into the bay?

**Director for Environmental Protection:**

They vary month to month. In springtime they tend to be higher because their receiving waters are stream waters at the time of fertilizer application, in short. They average anywhere from 28 up to about 40 milligrams per litre.

**The Deputy of St. Martin:**

How do T.T.S. receive fertilizers in water?

**Director for Environmental Protection:**

Because they are treating everything. The surface waters obviously use their domestic ...

**The Deputy of St. Martin:**

Where surface runs into a drain which is not separated and ends up at T.T.S.

**Director for Environmental Protection:**

Indeed, or a household who will use it and then discharge that as effluent into the works. So it is all linked in together.

**Deputy J.H. Young:**

Is there a prospect that the Water Framework Directive, which you were explaining to us, will change in the near future? Are there any changes expected?

**Director for Environmental Protection:**

It is developing all the time. What we are developing, together with the Environmental Agency in the U.K., is, as a department, designing a discharge permit which is based on European

Framework Directive principles, which means no deterioration in the receiving environment or a failure to achieve what the European standards apply as good status for the bay.

**The Connétable of St. John:**

If they are not achieving the figures in their permit what action gets taken, if any, by your department?

**Director for Environmental Protection:**

Our regulatory position is overseen by the Attorney General. Every quarter we forward a quarterly report to the Attorney General about our department's enforcement position against other States departments and that ensures consistency of approach, that we are consist in our approach with States departments and private individuals basically. The A.G. (Attorney General) has taken an active interest in this. T.T.S. has always failed to achieve that 10 milligram per litre. That has resulted in us issuing 2 formal warning letters to T.T.S. with the A.G.'s guidance.

[13:45]

Following the A.G.'s guidance, we prepared we prepared a case file which was again submitted to the Attorney General's office. That was in terms of non-compliance of the 2009 and 2010 limits. We have since been in discussion with the Attorney General and he was particularly interested in not the evidential test because that is quite clear - they have failed to achieve the 10 - but in terms of the public interest test and the impact that exceedance had on the receiving waters. We have just had advice from the Attorney General that he is minded not to prosecute T.T.S. in this instance primarily due to the fact that everything that possibly can be done has been done by T.T.S. We have been in dialogue with them. They have tried various approaches to increase the environmental performance of the current works at some expense. The department and T.T.S. now both agree that it is worthless to carry on spending money on an old redundant plant where it is extremely questionable whether they will ever achieve that 10 milligrams per litre limit; hence the debate for a replacement works, which we support, in order to take that forward.

**The Deputy of St. Martin:**

Notwithstanding that, surely if the bay is not eutrophic at the moment and you are still applying a level of 10 mg/l that is not consistent with the guidelines. Would there not be any case to answer on the basis that you should not be applying a 10 limit anyway?

**Director for Environmental Protection:**

No, you are right. The next-stage discussions with the Attorney General is work out that regulatory roadmap, how we go forward. Strictly the 10 mg/l does not apply at the moment, but we need



concrete evidence that the excess nutrients are not causing detriment to the bay. For example, although it is not technically classed as being eutrophic, that applies to what they call zone B and zone C, which is the major body of the bay, and the outside waters. I think we are relatively comfortable with that classification. What we would like to do more research on is zone A, which is the inshore zone. St. Aubin's Bay is quite ...

**The Deputy of St. Martin:**

That is going to lead me to my next question. Would the length of the outfall have a significant difference on this work? If you could discharge into zone C directly then you would not need to impose restrictions on T.T.S.

**Director for Environmental Protection:**

That is certainly a question we have got going forward to T.T.S. You know, if we are ever looking at a nutrient-removal plant, is it better to extend the outfall or put a plant on. One risk of extending too far, of course, is it is then a shortcut to the Ramsar site because you do not have that circulation.

**Deputy J.H. Young:**

So then we have the E. (Escherichia) coli issue, potentially.

**Director for Environmental Protection:**

Yes.

**Deputy J.H. Young:**

Just to be sure and sticking with nitrates for the moment, the discharge at the moment is into zone A, is it not, right up on the shore?

**Director for Environmental Protection:**

That is correct.

**Deputy J.H. Young:**

That is the area where we have had eutrophication and we have had the sea lettuce and so on accumulating in recent years? Well, probably for longer than that. The 10 milligram unit is designed to prevent that?

**Director for Environmental Protection:**

Yes, but in zone B and zone C what we need to clarify is what is happening in zone A. What is the mixing of the outfall waters like? There is some thought that the outfall, as you say, goes into zone

A together with various stream inputs. Is that staying within zone A, the inshore zone, or is that getting mixed on each rise and fall of the tide? Is that becoming just like a concentrated soup and then prompting this growth of Ulva or the green seaweed?

**Deputy J.H. Young:**

What do we know about the relative proportions of what is due to the outfall and what is due to other streams going into the bay? What do we know about the relative significance of those other sources?

**Director for Environmental Protection:**

That is a good point. It is about 50/50 at the moment, but in future the Water Framework Directive also stipulates or leads on to an integrated catchment-based approach. If, at the end of the day, you are looking at the receiving environment at St. Aubin's Bay then there is an argument to say: "Okay, I can be relatively comfortable with the sewerage treatment outputs if we can guarantee that the stream outputs will be lower and that balance will be maintained," but it is understanding that balance and that trade-off between streams and ...

**Deputy J.H. Young:**

I am going to turn to the Minister now, because you have given us a very comprehensive account of the rules, as it were. Minister, in view of that, what is your position on whether or not the new plant we are building for the long future needs to comply with the E.U. requirements on nitrates? Do you regard it as imperative that it does or do you regard it as still unknown?

**The Minister for Planning and Environment:**

I would regard it as imperative. I mean I am an environmentalist and I will start off on the basis that the sea should not be used as a dustbin to be discharged into by human populations in settlement areas indiscriminately and the best approach is a clean end-of-pipe solution. Notwithstanding that, obviously, in terms of regulation, you can always arrive at a viewpoint that can minimise the environmental disturbances that are caused by whatever system you are introducing. That is a fall-back position that is generally followed by other jurisdictions. It is the philosophy of the issues that are important.

**Deputy J.H. Young:**

Thank you for being so clear on that. Can I move away from nitrates now to other emission standards? Tim, you said that includes suspended solids and biological oxygen demand, I think, and was there ...

**Director for Environmental Protection:**

Chemical oxygen demand.

**Deputy J.H. Young:**

Chemical pollutants. Are those standards currently being met?

**Director for Environmental Protection:**

Yes, they are.

**Deputy J.H. Young:**

So you have emission standards for those. Are they E.U. standards?

**Director for Environmental Protection:**

I do not know what they are based on, to be honest, but they are currently being complied with.

**Deputy J.H. Young:**

Right, so at the moment we do not know. What about bacteriological testing, for example E. coli and so on? What are the standards there?

**Director for Environmental Protection:**

That is measured within the permit. At the moment it is a measured applied dose within the U.V. (ultra violet) plant. So this determines the efficiency of the plant to kill off the bacteria.

**The Minister for Planning and Environment:**

Yes, but the system does not ...

**Deputy J.H. Young:**

Yes, but is there a standard?

**The Minister for Planning and Environment:**

There is a standard, which is not met in times of high rainfall and this is the problem. The U.V. plant is designed for a lower throughput and when it rains heavily and storm-water flows have to be treated, they are treated at a substantially lower rate and the U.V. plant cannot cope. So the effluent waters are lightly treated. Therefore, that means that you do have bacteriological loadings that are going into sensitive or insensitive outside waters.

**The Deputy of St. Martin:**

Do you therefore agree, Minister, that, regardless of which system we use, the addition of storm tanks in front of whichever is the chosen system is almost a given?

**The Minister for Planning and Environment:**

As I said before, it depends on your environment philosophy. If, at the end of the day, the Island has signed up under environmental treaties to a wise use of resources and wanting to always achieve the best end of the environmental scale, in terms of environmental performance standards, then all well and good. We could design a system that could have adequate storm-water treatment facilities of a sufficient size in order to guarantee that any effluent that was going to come out of the process would be at the highest level. That said, the arguments seem to be the extent to which we do not wish to invest in the tertiary treatment systems or we wish to shuffle the problem under the carpet, so to speak, by building longer outfalls into deeper water so that it is out of sight and out of mind.

**The Deputy of St. Martin:**

Well, those are your words, not ours, Minister. What we are saying here is we are talking about the effect of storm-water and the effect of storm-water and the ability to clean the water properly before it is discharged.

**The Minister for Planning and Environment:**

Yes and I am stating it is not clean.

**The Deputy of St. Martin:**

What I am saying is, regardless of which system we adopt, which new system we build, each one of those different systems will require a storm-water catchment before treatment in order to maintain the steady flow through the new works.

**The Minister for Planning and Environment:**

Only if the base decision is that the water system is extended.

**Deputy J.H. Young:**

I think we will come back to that. We did not really get a clear answer on this question of the standards of the other contaminants in the water. Can you help us with that?

**Mr. D. Morris:**

Yes. One of the standards used is obviously the E.U. Bathing Water Directive, which is a key consideration in terms of E. coli, total coliforms and such. I understand that is being implemented across the Island. Could you tell us more about how in that regard?

**Director for Environmental Protection:**

Yes, certainly. We have been doing the monitoring of bathing waters, around 16 sites, since the late 1990s. The European directive is moving towards a new approach and we will be fully implementing that new approach as we go forward with classification in 2015. So, again, we work very closely with Professor David Kay from the Centre for Research into Environment and Health. They independently audit our results each year and advise us on the approach going forward, but the 2 compliance points, which again point to your faecal contamination within St. Aubin's Bay, are Victoria Pool and La Haule. It is important that they remain because they indicate to us that the U.V. plant or the output from the S.T.W. (sewerage treatment works) is working or not. Those compliance points will remain and will remain as compliance points.

**Mr. D. Morris:**

In terms of sampling, it is sampled as directed by the directive, so to speak?

**Director for Environmental Protection:**

Absolutely, to the letter of the directive.

**The Connétable of St. John:**

On the Bathing Water Directive sites that you generally monitor, how many fail per annum? Give a reason.

**Director for Environmental Protection:**

There are 2 standards. The first is the imperative standard, which is it is generally accepted "safe to bathe", and then there is an aspirational guide standard, which is 20 more times stricter than the imperative standard. For a long time all our Island beaches have passed the imperative standard and in 2013 14 out of 16 passed the guide standards. The ones to fail were Bonne Nuit and Bouley Bay, the 2 northern bathing beaches.

**The Connétable of St. John:**

Bouley Bay? Is there any reason for Bouley Bay failing? I can understand Bonne Nuit with the sewerage plant there, but not at Bouley Bay.

**Director for Environmental Protection:**

We have investigated both. The indication is that the failure of Bonne Nuit is not linked to the package treatment plant. We cannot find any firm evidence that it is linked primarily to the small package treatment plant at Bonne Nuit. There are other factor streams coming in. Variability of sample, for example; it was always one of the first we sampled in the morning before the sun came up and U.V. had a chance to act on the water. That has made an impact. Bouley Bay was provisionally linked to a leaking pipe in the public toilets down there, which has since been fixed. So we hope that will solve the guide failure.

**The Connétable of St. John:**

So it will be interesting over the next few months. Have you thought of changing your regime of testing, reversing it round so that those are done at the other end of the day?

**Director for Environmental Protection:**

Indeed. We do it at random now.

**The Connétable of St. John:**

You do? I see.

**Deputy J.H. Young:**

Can I move now to sludge? Can you tell us what the standards are of the material sludge which is left over at the end of a sewerage treatment plant, whether or not that material can be put to land and what the standards are, please?

**Director for Environmental Protection:**

Yes. At the moment there is no domestic legislation to cover the application of sewerage sludge to land. It is administered by Transport and Technical Services. As a department, what we have recommended is that they follow the U.K. Safe Sludge Matrix, which they are doing.

**Deputy J.H. Young:**

Looking at the plant for the future, what assumptions do you consider should be made about the standards of the sludge products, if I can call it that?

**Director for Environmental Protection:**

That would again adhere to the U.K. Safe Sludge Matrix going forward, as that develops, so it will meet the standards.

**The Deputy of St. Martin:**

Who is monitoring T.T.S. and whether they are adopting that approach?

**Director for Environmental Protection:**

The department liaises with T.T.S. and monitors; has regular discussions with them; looks at their data. It will also be monitored in the future by the cross-compliance under the single area payment, which states that farmers should hold a field-nutrient plan which indicates the nutrients put on to fields and taken off fields. Any sludge applied to that field would have to be included in that and the department will audit, under the cross-compliance scheme, 10 per cent of farms each year to ensure that the sludge is included within that farm nutrient plan.

**The Deputy of St. Martin:**

That would be your department?

**Director for Environmental Protection:**

Yes, that is right.

**The Connétable of St. John:**

Are you not concerned, given that this sludge is put on land within watercourses, some of which obviously does get into the reservoirs indirectly? I know you have got a register of wells and boreholes, but I would say that that is not even 50 per cent.

[14:00]

It is probably closer to 30 per cent of households. It was not a compulsory register, to my knowledge. Therefore, you have probably got only a third of the information that you really require about where wells and boreholes are in relation to putting sludge on land.

**Director for Environmental Protection:**

The actual registration scheme I would class as a success. We have got 3,200 private boreholes and wells registered. We think there are possibly 3,600, of that order. So we are quite far up and that is going by the address list from Jersey Water, households they supply; subtract one from the other.

**The Connétable of St. John:**

They may supply them, but a lot of those properties which historically have had wells and boreholes, did those people register as having a well or a borehole on their property?

**Director for Environmental Protection:**

Yes, indeed.

**The Connétable of St. John:**

Many of them?

**Director for Environmental Protection:**

Even if they are not used.

**The Connétable of St. John:**

So if you take those out of the equation, how many households are there in the Island who never contacted you? You must know who they are, but how are they getting their water supply if they are not getting mains water?

**Director for Environmental Protection:**

Yes, but, as I say, we are quite pleased with that result. We are continuing to chase them but, yes, we have 3,200. There is about 3,500 or 3,600 in Jersey. So it has been successful, that registration scheme, which - to come on to your second point - enables us, as a department, to protect their private water sources, which means that it is ...

**The Deputy of St. Martin:**

Sorry, Chairman. Can I just come back to the sludge and the fact that you do not have any local legislation at the moment to regulate this activity? You quite rightly said, and the States have signed up, that Jersey law requires standards of at least E.U. equivalent to be met. Are you telling us that you are satisfied that T.T.S. is self-regulating and they are doing a good job in sludge? You require them to adopt a certain regime. Is there not a requirement to oversee them to make sure that they are adopting it?

**Director for Environmental Protection:**

They are overseen by the department.

**The Deputy of St. Martin:**

They are?

**Director for Environmental Protection:**

Yes.



**The Deputy of St. Martin:**

Sorry, you did make that clear earlier.

**Director for Environmental Protection:**

We do have a look at this. There is a requirement for the pre-testing of fields so we know the heavy metal loading, so we are not overloading particular fields prior to application.

**The Connétable of St. John:**

But surely heavy metals should not be put on the grounds. If you have got things like mercury, cadmium and chrome, et cetera, that should not go into the food chain; because that is what it finishes up in surely.

**Director for Environmental Protection:**

Yes, but that is all risk-assessed under the U.K. Safe Sludge Matrix, which show low concentrations are ...

**The Connétable of St. John:**

I can recall sitting round a table when the M.O.H. (Medical Officer of Health) told us there should be nothing going in our water supply. The M.O.H. of the day told us nothing should be in that water and yet you are going from a directive from somewhere else that says it is quite all right to put this on land.

**Director for Environmental Protection:**

Within safe limits, yes.

**The Connétable of St. John:**

The 2 ends should meet in the middle and they are not.

**Director for Environmental Protection:**

That is linked into the solubility of such heavy metals and where we apply them. They are applied away from water courses and away from boreholes and wells according to the farm risk map.

**Deputy J.H. Young:**

What do we know about the current standards of that sludge? How contaminated is it, the present plant? I ask because obviously I then want to ask you: what standards do you think the plant should be in the future? So the starting point is: what do we know about it? You told us the rules. I appreciate that, but what are the current standards? Sorry, what are the current levels of ...

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

The current levels of determinants within that sludge? We have not got any that we are operating a regulatory regime to.

**Deputy J.H. Young:**

Right. You do not know if there are materials in it that should not be there.

**Director for Environmental Protection:**

But it adheres to the U.K. Safe Sludge Matrix.

**The Deputy of St. Martin:**

Yes, but does the U.K. Safe Sludge Matrix include specific levels of heavy metals?

**The Minister for Planning and Environment:**

Yes, it does.

**The Deputy of St. Martin:**

It does. So we are meeting that requirement, are we?

**The Minister for Planning and Environment:**

It does, but the point is we have got an entirely different system. I mean a lot of the U.K. sludges do contain industrial wastes and those are the source of heavy metal contamination and other things.

**The Deputy of St. Martin:**

Our sludge is better than theirs?

**The Minister for Planning and Environment:**

We have got pretty good sludge up to a point but, that said, there are conflicting reports in terms of the amount of land on which sludge spreading is an acceptable practice in Jersey. Those reports have been produced by the T.T.S. Department over a number of years and at Agriculture. So, on the one hand, we get arguments to the effect that there is a limited amount of land on which these materials should be put. Secondly, within the sludge matrix for spreading the materials on the land, it can no longer be put on top of the surface and has to be drilled in. We do have problems about nitrate-sensitive areas of water catchment, which we are working on as well. So there does seem to be contradictory evidence as to the extent to which, as a requirement for the water-borne sewerage system, areas of land are sufficient for the treating of sludge. If you look at the records

from T.T.S., an amount of sludge is also burnt in the incinerator if there are periods during the year where sludge application cannot be applied.

**Deputy J.H. Young:**

In the future, Minister, what should we be aiming at in our new plant? Should we be aiming not to use this material to land or should we be designing it to get rid of it in other ways?

**The Minister for Planning and Environment:**

No. At the end of the day, all of these things can be turned around in environmental terms and I think the sludge product can be enhanced. Over my time in the States there have certainly been projects that have been applied by the T.T.S. Department recently to lime the material in order to provide a facility in addition or instead of pasteurisation to offset some of the environmental health problems that might accrue if those processes were not undertaken. That said, we do have nitrate-sensitive areas, as I said before. We do have a problem with water collection in the Island and we do know that 50 per cent of the nitrate problem that we are trying to treat at the other end is caused by run-off caused by the application of fertilizers in areas of water catchment. So it seems to me we should have started with a fresh look at this whole process of the Liquid Waste Strategy in order to determine whether or not, through the actions that we are wishing to continue with, we were moving into an area that is sustainable in the longer term, best practice in environmental terms and financially prudent. I do not think any of those things have been undertaken with this particular review.

**The Deputy of St. Martin:**

What is the level of nitrate content in sludge, Minister? Is it high?

**The Minister for Planning and Environment:**

If there is no removal it will be high, yes.

**The Connétable of St. John:**

The sludge that comes out of the ash pits from the incinerator is bound to be high in cadmium, chrome and mercury. That goes into the digesters. A percentage of it will go out to sea. The remainder, because it is heavy metals, sinks to the bottom. That will come out as cake at the end of the day, once it has been treated, and go on the land.

**The Minister for Planning and Environment:**

Sludge, as far as I am aware, does not get created from the ash pits, as you mentioned, and get put into the Bellozanne system to be added to the materials that are coming through the extrusion process.

**Director for Environment and Deputy Chief Officer, Department of the Environment:**

Are you considering liquid that has been removed from the ashes?

**The Connétable of St. John:**

That is correct, the liquid which is a mixture of ...

**Director for Environment and Deputy Chief Officer, Department of the Environment:**

So it is the liquid that goes into the ...

**The Connétable of St. John:**

It is the liquid sludge, for want of a better word, that gets carted out on a daily basis from La Collette. Until the ash pits are closed, they have to get rid of the water within the pits. That gets taken to the Bellozanne works and that gets entered into the digesters. Because it is heavy metals, a big percentage of it will finish up within the heavy sludge at the bottom, the residue, and that in turn will finish up going on land.

**The Minister for Planning and Environment:**

I was of the opinion that the effluent that was being taken from La Collette did not play a part in the similar systems that are used for dealing with human waste and that merely it was taken to Bellozanne and presented to the outfalls after the plant, rather than before the plant.

**The Connétable of St. John:**

You may want to ask your officers.

**Director for Environmental Protection:**

T.T.S. did a report on it. The leachate from the ash cells, primarily for the uncapped ash cells which are still in use, is pumped off. That then goes to pre-treatment at Bellozanne's treatment works, whereupon it is trickle-fed in. So a large element of that is dilution into the system.

**The Connétable of St. John:**

Correct.

**Director for Environmental Protection:**

To allay your fears, the Water Framework Directive when we commence our work for the department into St. Aubin's Bay, there is a very extensive screening of all priority hazardous substances coming out of Bellozanne sewerage treatment works. I do not know long the list is, but it is quite extensive and we screened the effluent coming from the works for all those priority hazardous substances and that was okay. We are taking that one step further and, thanks to the

funding you put forward, we are developing the Water Framework Directive approach in land, as it were, for surface waters and ground waters. That process also includes a very rigorous screening for heavy metals or these priority hazardous substances in surface waters and ground waters throughout Jersey. So what we need to assure ourselves as regulator is, yes, the U.K. Safe Sludge Matrix has been adhered to; it is being put on areas away from streams and boreholes and wells; the limits are within the limits of the U.K. Safe Sludge Matrix. However, in order to categorically say that there is no priority hazardous substances or heavy metals getting into our waters, we will screen for those and we can inform you of the findings.

**The Connétable of St. John:**

So you have been screening what has been coming out of the ash pits?

**Director for Environmental Protection:**

Yes.

**The Connétable of St. John:**

You are telling me there is very little, if any, heavy metals in it. That is correct, yes?

**Director for Environmental Protection:**

No, sorry. We screened on what was the discharge effluent from the sewerage treatment works.

**The Connétable of St. John:**

That is on the effluent, but what ...

**The Deputy of St. Martin:**

Yes, but you would not expect to find heavy metals in the discharge because the heavy metals will be in the sludge.

**The Connétable of St. John:**

They will be in the sludge at the bottom of the digester, and that will not come out until you are cleaning it.

**Director for Environmental Protection:**

That is why we recommended that T.T.S. commission a report. I think it was done by Capita, but you can ask them on that one.

**Deputy J.H. Young:**

On the sludge?

**Director for Environmental Protection:**

On the sludge.

**Deputy J.H. Young:**

All right. We will ask T.T.S.

**Director for Environmental Protection:**

The question was: "What is coming into the works? What is getting deposited and what is getting into the ..."

**Deputy J.H. Young:**

So your controls are over the effluent that goes out to the bay, not on the actual solid materials that goes to land. That is for T.T.S.

**Director for Environmental Protection:**

Yes. However, we will be requesting a variation to the discharge permit because we would like to be fully conversant with what is being discharged into the works through these trade effluent consents, which is the responsibility of the Minister for Transport and Technical Services.

**Deputy J.H. Young:**

We have spoken about, obviously, normal effluent from the sewerage plant. We have spoken about the ash pit effluent. Are there any other major sources of contaminated liquid that goes through the sewerage treatment plant, that you are aware of, that should be considered in terms of the replacement plant itself? Are there any other major sources? The Beauport potatoes, for example: are they still being trickled into the sewerage treatment plant? Is there effluent from those?

**Director for Environmental Protection:**

Into the foul sewer?

**Deputy J.H. Young:**

Yes.

**Director for Environmental Protection:**

The domestic legislation for that is administered by Transport and Technical Services. They are called trade effluent consents underneath the drainage law. As regulator of Pollution Law we must assure ourselves that no pollution is occurring. That is why we will be making a variation to the current permit, because, although we can satisfy ourselves at the end of the pipe into the bay,

which is what we regulate, is okay, there may in fact be priority hazardous substances there which are quite close to the limit. If T.T.S. on the other hand are accepting a trade effluent consent which has elements of those priority hazardous substances in them that can tip the balance then we need to know about it. So the variation we will be requesting from T.T.S. is more information about what they consent coming into ...

**Deputy J.H. Young:**

You are requesting it or you have?

**Director for Environmental Protection:**

We will make a variation.

**Deputy J.H. Young:**

You will be. Therefore, there will be a higher standard of regulation of that?

**Director for Environmental Protection:**

It is just joining up all the dots really.

**Deputy J.H. Young:**

Are there any major sources that we should be aware of when we talk to T.T.S.?

**Director for Environmental Protection:**

No, it is generally laundries, Milk Marketing Board, that type of stuff.

**The Connétable of St. John:**

You say there is no legislation at this time. Are you looking, Minister, at putting legislation in place?

**The Minister for Planning and Environment:**

Inevitably, if we do go down this route, I would suspect that would be the case. Yes.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

I think we are essentially strengthening our hand under existing legislation with our interpretation of the introduction of a stronger E.U. directive.

**Deputy J.H. Young:**

Are you saying to us that you need new laws or current laws are adequate? Which is it?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

I think the current laws are adequate. The policy framework; that is the Water Framework Directive work that is coming through, that work will strengthen what we have already got in place.

**Deputy J.H. Young:**

Does it require any States decisions or is that part of this strategy?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

Part of the Liquid Waste Strategy is to determine whether we are accepting that we take forward the Water Framework Directive as the overarching environmental driver.

[14:15]

**Deputy J.H. Young:**

That is the major part of it. So it is not just an operational plan; it is a regulatory framework as well.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

T.T.S. obviously wants to take forward a certain path and they want to ensure that it is enshrined within the best-quality regulatory environment that we can offer, and so that is what we are doing in terms of doing that with the introduction of the Water Framework Directive.

**Deputy J.H. Young:**

What about the interim? As I understand it, this project is proposed to be phased and so we have got a current plant. There will be a new one in between; we do not know how many years. There will be sort of halfway houses. How can that be dealt with within this regulatory regime you are talking about?

**The Minister for Planning and Environment:**

I think it needs some sensitive thinking because at the end of the day, our regulatory controls that we have got at the end of pipe are based in terms of concentration of particular chemicals. Inevitably there is an element of flexibility with the authority who is contributing this effluent into the wider environment to change the dilution factors to be either on one side of the law, dare I say, or on the other. In my mind, I think the legislation is probably going to move away from that towards absolutes.

**Deputy J.H. Young:**

Absolute levels?



**The Minister for Planning and Environment:**

An absolute level of contamination, per se, rather than dilution.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

The means of ...

**The Minister for Planning and Environment:**

Yes, or concentration.

**Deputy J.H. Young:**

So that means changes to the law, does it, Minister?

**The Minister for Planning and Environment:**

I think it will inevitably lead to changes in the law, yes.

**Deputy J.H. Young:**

You will promote that?

**The Minister for Planning and Environment:**

Yes.

**The Deputy of St. Martin:**

Can I just ask about end-of-pipe, Minister? You have referred to it a couple of times now. Can you tell us exactly what you mean by end-of-pipe? Do you mean at the end of the pipe discharging into the bay, because I am aware that it is quite difficult to actually monitor accurately what is coming out genuinely at the end of the pipe?

**The Minister for Planning and Environment:**

Yes. The usual terminology is the end of the outfall that takes you from the processing into the wider environment. So in our particular case it is at the end of the outfall.

**The Deputy of St. Martin:**

It is at the end of the outfall. So how are you monitoring that at high tide then?

**The Minister for Planning and Environment:**

The monitoring takes place under the bathing water standards and things at points that are either close to the outfall or within the bay.

**The Deputy of St. Martin:**

If you are talking about getting this down to the nth degree of testing how can you be accurate when you have tidal flow and circulation, wind, hydraulic pressure and stuff?

**The Minister for Planning and Environment:**

Inevitably there will have to be sampling points further upstream away from the outfall area.

**The Deputy of St. Martin:**

Just one question before we drift away from the sludge, I wanted to go back, Minister, you mentioned lime additive in the system that they are using at the moment. Our proposal to change from lime to pasteurisation, can I just ask for the department's view on that?

**The Minister for Planning and Environment:**

I do not know what the department's view is but my own personal view is that if lime does the trick or pasteurisation does the trick it is an economic case to consider, and from an environmental point of view if both systems deliver the goods then I do not really mind which one is undertaken.

**Deputy J.H. Young:**

Mr. Morris, you wanted to come in on this.

**Mr. D. Morris (Adviser):**

Yes, just looking at the sampling point again, obviously T.T.S. will undertake some sort of sampling regime as part of their works. I take it you would first of all have independent sampling possibly to determine whether the works are performing, and the second part of that question is we have discussed already the potential for nitrification and the requirement for nutrient removal at the works. Would sampling have to be used as a trigger point or to determine the need for future nitrification/de-nitrification?

**Director for Environmental Protection:**

Just to clarify the regulatory sampling is taken at the point directly after the works. This is because you have various streams exiting from the site so it is quite exacting. T.T.S. have need for that data as operational data so they routinely measure those parameters, nitrogen for example. They use that to change their operation to make sure the plant is running efficiently. We as regulators have access to that. We also take our own independent samples under the Urban Waste Water Treatment directive and we use those as a regulatory period. Concerning the need for nutrient removal is quite an important point and one we are very conscious of as regulator. What the understanding at the moment is there is not enough scientific evidence that strongly supports the investment of a £30 million extra plant, nutrient removal on the end of the proposed replacement

sewerage treatment works. If we adopted a precautionary approach and money was no object in Jersey then ourselves as regulator will be saying: "Fine. Stick with the 10 mg/l as a precautionary approach and spend the £30 million," and we as regulator can rest assured that the environment will not deteriorate. At the moment there is not the scientific evidence to support that big expenditure. We have entered into a phased approach which is the first phase for the £70 million is for a carbonaceous plant. Yes, environmentally that has wins, it has storing tanks, it has greater U.V. kill rates for our compliance with bathing waters. It does not have any nutrient removal. Our work going forward has to inform what the balances are, what the future holds for the integrated catchment, i.e. all streams, all surface waters going down and therefore we do not have to put in the expenditure but will still be based on that precautionary approach. We will be asking for full evidence in the inshore zone that we do not need that nutrient removal. T.T.S. have co-operated on that with us and basically put that decision in our court together with the A.G. If our scientific evidence firmly points to the sewerage treatment works being a contributing factor to the seaweed growth or the growth within the bay then we would be recommending phase 2 of that approach which is an expenditure of £30 million.

**Deputy J.H. Young:**

When is that likely to happen, that you will complete that work and know that for certain?

**Director for Environmental Protection:**

Within 2 to 3 years I would think. That is our anticipated timeline. We have the Water Framework directive classification. That will be fully awarded in 18 months time. We also have the Zone A studies which we are yet to firm up with T.T.S. to indicate on that one as well but the reality is it is quite a large capital expenditure. It is quite large capital operating costs to run such a plant and we need to assure ourselves as an Island really.

**Deputy J.H. Young:**

Let me put a hypothetical to you. If we had £30 million to spend on getting rid of nitrates would it be better to spend £30 million on a plant to take it out of drinking water or deal with the effluent that goes out of our sewerage works? Which would give us a better bay?

**Director for Environmental Protection:**

That is a very good point. That is the nature of our work at the moment is controlling it at source, it has to be the Island's solution because you control it at source. You can effectively knock out the drinking water problems on compliance we have, the derogations with drinking water. We can help solve the green seaweed problem and the health impacts of people on private water.

**Deputy J.H. Young:**

Are you having any discussions with the water company?

**Director for Environmental Protection:**

Yes, we are.

**Deputy J.H. Young:**

What is their position on this? Are you able to tell us?

**Director for Environmental Protection:**

They are working together with us. Under the 1972 Water Law they need to supply to the public wholesome water which is 50 milligrams per litre. Through the springtime there are spikes in supply and they are not gross exceedances but at 51, 52, 53 milligrams per litre. They are very sporadic this year. There has not been any but because they do happen they have to request a derogation under the Water Law for themselves as to accepting that derogation to continue. That cannot go on for ever and hence what we call the diffuse pollution project was born which is precisely your point is to attack it at source to try and control the application through fertiliser inputs, septic tank inputs.

**The Connétable of St. John:**

If the Island does not have any legislation can you police the areas you have to police using the E.U. Directive, U.K. sludge law and Defra, would that hold up in court? I am talking about sludge.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

Yes.

**The Connétable of St. John:**

Would you want to take it all the way to court?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

In terms of a pollution incident that was caused by sewerage sludge?

**The Connétable of St. John:**

Yes.

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

I think we would be able to prove that there was pollution there if you can link it back to the incorrect application. A code of best practice is not a legal or a lawfully standing document but if

the operator is operating in the spirit of the code of best practice then that can be used as mitigation against court action.

**The Connétable of St. John:**

How would you prosecute a person if there is no legislation, no Island legislation?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

You would not. You would refer it to the Water Pollution Law rather than anything that is to do with the quality of the sludge.

**Deputy J.H. Young:**

Okay, I am going to change the subject entirely now because obviously time is moving on. We have concentrated strongly on the standards for the plant. I want to now move to the plant itself, the new plant. Minister for Planning and Environment, in the papers that you submitted, if I have this wrong or right I think you took the position that you wanted to see the alternative technologies considered in this strategy. Would you like to explain briefly your reasons for that, Minister, your thinking on that?

**The Minister for Planning and Environment:**

Yes, sure. At the moment since the Victorian engineering was introduced to the Island nobody has challenged the water borne transport sewerage system, and in environmental best practice terms I think that policy review or strategy review is due. In fact it is overdue. If you look at the whole issue of the sewerage production and treatment with an environmental hat on it does strike you as somewhat bizarre that we are incapable in today's technological age of doing anything more sensible in terms of providing different transportation systems or different treatment systems in order to deal with human faecal content. It strikes me as absolutely bizarre that when you look at the numbers of the system that the Island for a population of 100,000 is producing some 25 tonnes per day of faecal remains. It is wet. If you look at the dried remains it is about a third of that and we are using 1,000 times as much water in order to flush that content from positions on the Island to a central processing unit which does not clean up the waters that are used for the transport of the materials to a sufficiently high standard. Anybody in their right mind would be wanting to query these systems and see whether or not there are better systems to transport these materials either in a similar fashion from the households where it is being generated to a central processing unit, or better still to find a way whereby a distributed processing system would obviate the need for using these prodigious quantities of water and generating environmental problems at great expense. It is with that in mind that I thought that I was going to be offered and afforded the opportunity by the Council of Ministers to get part and parcel of a strategy setting process and a review which may or may not have ended up in the position that we find ourselves in which seems

to be a headlong charge into continuing with the system that we have had over the last 100, 150 years.

**The Deputy of St. Martin:**

Would you accept that the system we have at the moment, it is not broken but it nearly is.

**The Minister for Planning and Environment:**

Yes, I do and that means that we have to find a way for repairing it or replacing it, and what I am saying at the moment is that that process of considering any replacement is not being, in my mind, in any way sufficient according to most government practices wanting to spend huge sums of tax payers' money on capital facilities. If you read the report, I am not sure that everybody round the table has, within the report you have comments to the effect that there are still some 1,000 at least homes that due to the gradients of the terrain still do not flush adequately the human content from the point of application all the way to Bellozanne with one flow and you should not expect 4 or 5 litres to do that. You do get sedimentation within the network system which is causing some of the problems of the network itself requiring further improvement or change or replacement.

[14:30]

I would have hoped that we could have sat down with all Ministers who had an interest in this and applied environmental best practice principles across the board but clearly that has not happened and indeed the Scrutiny process that we find ourselves in today is being done in an accelerated fashion in order to promote an argument which in my mind will not go far enough to determine whether or not what is being proposed by the T.T.S. represents best application of funds in financial terms, best environmental practice in environmental terms or just best in any other social terms or any other terms that we wish to consider. There are better ways of looking at these things. I am not suggesting that my ways or any ways that I would wish to put forward should be exclusively considered but what I am saying is that if I take a wider look at societies around our planet people are realising that water is in short supply. Defecating in your water and then not cleaning it up to a sufficient standard is not the sensible use of resources and the Island Plan does quite heavily lean towards a wise use of resources and in this respect I do not think what is being proposed is a wise use of resources in any respect, shape or form.

**The Connétable of St. John:**

You said that the Council of Ministers had not used all of your knowledge, i.e. your fellow 9 Ministers' knowledge.

**The Minister for Planning and Environment:**

They refused point blank to discuss it, and I give you one example. There have been 2 meetings of the Ministerial Oversight group that was convened after a lot of argument at the Council of Ministers to try and get the liquid waste strategy to be opened up to a proper consideration of the strategy rather than to be a group that was set up to propose the procurement of a particular capital application and plan, and one of the meetings took place on 5th March, and it is a Freudian slip perhaps, this shows you the state that pervades within the T.T.S. Department where the heading for the agenda is called: "Liquid Waste Strategy Ministerial Oversight Group" and "oversight" is spelt O-V-E-R-S-I-T-E. So there has been no attempt, other than these 2 meetings, at which it was stated that there was going to be a proper look at the strategy ...

**The Connétable of St. John:**

You were party at those meetings, were you?

**The Minister for Planning and Environment:**

I was party to the 2 meetings, but it was pretty clear that it was a process to bring forward to the States a rubber-stamping exercise in order to allow the T.T.S. Department to go forward with the expenditure, the monies to repair the system or improve the system in the way that has been promoted at the moment.

**Deputy J.H. Young:**

Did you record your dissent at those meetings?

**The Minister for Planning and Environment:**

I have done. I have done regularly, but it is like banging your head against a brick wall.

**Deputy J.H. Young:**

Would you be prepared to release those notes of the meeting to the panel?

**The Minister for Planning and Environment:**

Yes, certainly, but I do not know at this stage whether or not anything will come of it, because it is quite clear in my mind, as a Minister, that other Ministers do not share my appetite when there is a requirement to sit down and to look at long-term strategic capital planning and infrastructure spend, to sit down properly to discuss the issues and to see whether or not, before we go forward and spend huge sums of monies on the upkeep of systems which may well have been overtaken technologically. That is the best way forward.

**The Connétable of St. John:**

Were you joined by any of your officers at that meeting?

**The Minister for Planning and Environment:**

Yes, I was. Yes.

**The Connétable of St. John:**

Which ones?

**The Minister for Planning and Environment:**

The Chief Officer and Deputy Chief Officer of the Department.

**The Connétable of St. John:**

Did they all share your view?

**The Minister for Planning and Environment:**

Officers have got a regulatory function, right, and this is part and parcel of the difficulty. Indeed, the Scrutiny review that we have held so far today has shown the 2 hats that the Minister for Planning and Environment wears in this respect. There is a regulatory function which obviously is there as a safeguard to ensure that there is no environmental degradation or destruction, and that is absolutely right, but there is a secondary hat that the Minister for Planning and Environment wears, and I thought was generally agreed by the Council of Ministers was supposed to be worn in order to try and encourage the States organisation as a whole and society in general to move towards the best end of environmental practice across the board as and when. In order to do that, you have to sit down and generally want to be a participant in that process and to be open to other ideas, not necessarily ideas that the Minister for Planning brings forward, but just open to a proper review process that looks at best practice worldwide. We have not done that and we do not intend to do it.

**The Deputy of St. Martin:**

I just want to say, Minister, that I raised the point at our meeting this morning before the meeting this afternoon that I wondered whether you were conflicted in your roles as Minister for Planning and Minister for Environment. There is quite a large section in the *Island Plan* about how the Minister for Planning will agree to move forward on the site at Bellozanne and various other restrictions there, but before we get to that, you mentioned 5 minutes ago about sections of the old Victorian network which do not flush properly and we are aware that there are sections where the gradient is not perfect that would be hugely expensive to pull up ...



**The Connétable of St. John:**

Just before we go there, can we just hear from the other officer who was at that meeting before we go back on that one, because you were at the meeting with the Ministers. Can you share your views on what you think?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

I cannot. I would not want to move on to the political domain, but certainly what is being alluded to in terms of our regulatory rules, exactly that. We are obliged to review, from a regulatory perspective, what is put in front of us by T.T.S, any operator, with a view to determine whether the plan or the proposed package of plans is regulatable and is likely to offer improved environmental quality, and at the very least, in this instance, is not going to offer any degradation in water quality. In effect, that is the mandate that the officers in the department have. We are mandated ...

**Deputy J.H. Young:**

Which department?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

The Environment Department. We have a mandate over regulation ...

**Deputy J.H. Young:**

Would you also have a role in advising the Minister on environmental policies?

**Director for Environment and Deputy Chief Officer, Planning and Environment:**

Environmental policies, but in this instance, liquid and solid waste policy and strategy sits very firmly in the domain of the Minister for Transport and Technical Services.

**The Connétable of St. John:**

Sorry about that, Deputy.

**Deputy J.H. Young:**

Can I just ask you to develop your ideas a bit? Sorry, obviously you have taken us a little bit by surprise, Minister, with what you have said. You said that you criticised the process because you think it did not allow for the exploration of alternatives. Would you tell the panel what you think what process should have been done and in particular what alternatives you believe have been excluded and not looked at?

**The Minister for Planning and Environment:**

There are several. If water is going to be used as a cheap fluid for transporting human faeces from the household to a central processing unit, then I think that needs to be challenged, first and foremost. Water, as we know it, is subject to other legislation, it is in short supply, particularly drinking water worldwide, and I think the time is right to justify, in whatever shape or form, whether or not we can hold these opinions of water to be of such a low grade as a fluid in order to be used, to soil it, and to then try and clean it up in an unsatisfactory way.

**Deputy J.H. Young:**

What are the alternatives then, Minister?

**The Minister for Planning and Environment:**

There is a whole host of dry toilets or composting toilets or indeed incinerating toilets and you just take your pick, but the key essence of that approach is to not try to hide the fact that people produce food waste and excrement, which has to be flushed out of sight underneath the ground in a way that kind of does not encourage people to be responsible for their actions, or indeed for taxpayers' money to be spent indiscriminately on systems that do not perform in an optimum fashion. So the key issue, in my mind, is that environmentally should Jersey in particular, and as part of the worldwide best practice, which is starting to consider this very question, be continuing to justify or to try and extend old-fashioned Victorian ideas in terms of dealing with human waste? As I said before, and if you look at the figures, there are a whole host of mechanisms, financial mechanisms, cost-benefit analysis or whatever, to determine whether or not the water-based system and the investment that we have made in the network is worthy of a continuation into the future and does represent best practice. I am not saying that it does or does not, but I am saying that the question there needs to be addressed before we go and spend huge sums of monies.

**Deputy J.H. Young:**

But you cannot point to other places, developed societies that have introduced these technologies?

**The Minister for Planning and Environment:**

There is a whole host of work there that is being done. There is some 5 million dry and composting toilets that are used worldwide. In fact, those figures may be on the low side.

**The Deputy of St. Martin:**

Would you accept, Minister, that mainly where those dry toilets are used are areas where they do not have water accessible to flush toilets?

**The Minister for Planning and Environment:**

That may well be the case, but the question has to be faced head on: if clean water is in short supply - and we are told that for Jersey we are in a dry area, which we have to accept from the authorities who assess these things - does it make sense that we should use it as a base fluid for transporting human excrement or should we have better transport systems or better systems to deal with our human waste in a way that would not require the water to be used in that particular fashion? You cannot appreciate resources until you do respect them, and I think the use of water in this particular fashion is disrespectful to the fluid.

**The Deputy of St. Martin:**

I would not disagree about not knowing the value of water until you do not have any, as a farmer who has had to farm with cattle over winters where you cannot get water out of the ground because it is frozen and you have animals poorly. I can appreciate that, but I want to go back to what you said about the system and the network, Minister, and the point I was trying to get across a little bit earlier, the thing we wanted to get on to, the deep shaft technology that you have put forward. But before we do that, you made comment about these lengths of the system where the levels are not right, and we appreciate that and we know that is true, but are you advocating that what you do not want to do is to take everything to Bellozanne and use your deep shaft technology, are you advocating keeping it in-house, no water, dry toilet technology?

**The Minister for Planning and Environment:**

I am saying both systems, and indeed variations between are something that needs to be considered before the Island moves forward. That is what I would expect to have been discussed as part of a proper liquid waste strategy. What we have in front of us is not a liquid waste strategy, it has not been properly reviewed, in my opinion, and it represents a mad charge, if you like, in order to continue with the system that we have got and to make a justification which does not necessarily add up in accounting terms, environmental terms or financial terms.

**The Deputy of St. Martin:**

What statistics have you brought forward for deep shaft technology that you have offered to the ...

**The Minister for Planning and Environment:**

Deep shaft technology, there is another alternative. If indeed people were going to stick with a water-based system and we decided we were going to have a clean-ended pipe solution, then all well and good, right? So I would fully expect us, if that decision were to be taken, we would be a little bit more kind of accepting of the bolt-on technologies in order to clean up the water to the standard that it went into the system in the first place, but ...

**Deputy J.H. Young:**

So it is the standard of the treatment?

**The Minister for Planning and Environment:**

It is the standard and an acceptance of a water-based transport system for a network could be contemplated, providing what went in and what came out were of equal cleanliness, but they are not.

**Deputy J.H. Young:**

Right, so it is an alternative to the dry toilet and composting toilet?

**The Minister for Planning and Environment:**

So in suggesting that some look be taken to the deep well systems, there are a number of places around the world who, for example, have moved into taking human waste and turning it into bioethanol. If indeed an underground deep reactor vessel can be built - and it can be built, we have had engineers here in the past who have come over to advise us on other or similar facilities - if indeed the Island could move into a direction to get best value out of its human manure to the extent that it could be turned into bioethanol to offset the petrochemical imports to the Island, then there is an economic, environmental and social issue that has to be properly addressed. Now, I am not saying what the answer is, I am not even saying that that is necessarily the only way that we should be going in, but at the moment I do not think any proper discussion has taken place as to whether or not these things could or should be looked at.

**Deputy J.H. Young:**

What about if there is a cost issue there, Minister, that your ...

**The Minister for Planning and Environment:**

That would be taken into account, but at the end of the day, it has to be taken into account in a way that shows that we have got joined-up Government, which I think this process is not showing.

[14:45]

**Deputy J.H. Young:**

So you are saying that the process is wrong, you are saying that the viewpoint you have put forward has not been given a chance, not been explored?

**The Minister for Planning and Environment:**

I do not think it has. We started off 2, almost 3 years ago I made requests and I was promised that there would be Ministerial Oversight Groups to sit together in order to come forward with a combined approach and working together to come forward with a liquid waste strategy. That clearly has not happened and I think it is a shame that it has not happened. It is maybe too late for it to happen, but we find ourselves and I find myself at a particular point in the political cycle where this appears to be being railroaded through as being the best in environmental and social and economic terms and I do not think it can be justified in that particular fashion.

**Deputy J.H. Young:**

Do you think the Island can handle introducing what would be novel technology for us?

**The Minister for Planning and Environment:**

It is not a case of novel technology. We have got another situation, for example, as Minister for Planning, I am encouraging and I have got an agreement generally to encourage sustainable open drainage systems. Indeed, the Island have decided to finish off the cavern project, which essentially is storm water control, not just for flooding in town, but for making sure that any soiled waters that are too large to be processed by our ailing Bellozanne treatment works are held on to until such a point as they can be properly treated. We all know that the cavern overflows multiply during the year. It was designed for a 4 per cent design year and all the rest of it and we were not going to get storms and floods. We have got climate change upon us, everybody knows that rainfall and weather is becoming more unpredictable, so that means we have to adapt our drainage and our sewage facilities accordingly. It might well be that further monies could and should be spent on other cavern systems. Indeed, that is what we are doing with the extension of the works at Ann Court. So the town system is being extended, right? If you take off a whole load of water that was designed to run in a combined system in order to flush the sewerage system to the extent, as I mentioned earlier, because one flush at home does not take your excrement from town all the way to Bellozanne, there have to be other flows in order to keep the system clean or indeed to move the materials along because of the poor gradients. We have got no information to the extent of that, as to whether or not by taking off the storm water flows, by extending the cavern project that the system that we are going to end up with is going to have sufficient flows in order to clear the systems. We have already got smells and hydrogen sulphide kind of being produced at Snow Hill. It is a problem area and that is right next door to the cavern system, and you get it in London, you get it in other places where you have an over-reliance on a transport network that does not self-cleanse itself. So I see we are in a position of having contradictory policies. On the one hand, everybody is saying we should be supporting environmental progress. That means grey water systems, rainwater harvesting, wise water use in terms of only buying shower appliances or whatever or bathing facilities that use less water per se. All that water has been

going into our combined system. T.T.S. are developing plans in order to separate the foul black waters from the lightly soiled waters and that is the issue. So I would have expected us to have sat down like mature politicians at the outset to determine whether or not there are ways, based on the separation of the 2 systems, to be told what effect SUDS (Sustainable Urban Drainage Systems) is going to have on the overall system, but it is not in here.

**Deputy J.H. Young:**

I may have missed the point and I apologise if I have, but it seems to me that what you are arguing is inconsistent. On one hand you are saying: "We do not want a water-based transport system. We should be looking at alternatives that do not have a transport system at all" and on the other hand you are saying that proposals that do maintain the water system, we will not have enough water.

**The Minister for Planning and Environment:**

Yes, that is exactly right.

**Deputy J.H. Young:**

Those 2 positions seem to be inconsistent to me.

**The Minister for Planning and Environment:**

They are inconsistent, right, but it is being brought about by the environmental arguments, suggesting that we should be going for sustainable urban drainage, which everybody at T.T.S. agrees is a sensible way forward.

**Deputy J.H. Young:**

But do you not accept what T.T.S. have told us, that they say: "Look, if you got a sewage treatment plant or if you have got a plant with water as a transport system, you do not need too much surface water through it because it means the system does not work properly"?

**The Minister for Planning and Environment:**

It does work properly, and what you have not been told, which is what you should be told, is the extent to which those waters are required in order to flush the system from start to finish. If you read some of the reports that have come forward, particularly the ones from Grontmij, where they were indicating sedimentation within the network and the problems that that causes on the network, that has to be taken into account. There are no details at the moment as to the extent of the flow rates and the amount of water that is required in order to flush the system from start to finish, if we are going to continue with this extended system that was never designed to take the loads that our population is forcing upon it.

**Deputy J.H. Young:**

Mr. Morris, can you help on that? Go on, John.

**The Deputy of St. Mary:**

Based on your theories, Minister, that means you would not approve extending the drainage system to the north of the Island.

**The Minister for Planning and Environment:**

I probably would not, no, if I had my own way, but these decisions are not taken exclusively by myself.

**The Deputy of St. Mary:**

When a toilet flushes, it is not just the toilet, people wash their hands afterwards, they get a flow of water there, they have showers, they have baths, they do dishes. On one hand we are told that we are putting far too much water down the drainage system and then you say there is not enough to get the sediment to the plant.

**The Minister for Planning and Environment:**

That is right, that is absolutely right, so the choice is going to have to be made at some stage as to whether or not we go to continue to extend our water-based system or whether or not we decrease the flows in a way that allows the system to function in a better way. I do not think enough work has been undertaken at the moment to determine which of those 2 options is the best option. It may well be that both options are acceptable. From the technical data that I have received, I do not think the issues have been tackled head on, and it says: "Refer to comments from the consultants" and they were in broad agreement that extra information on these particular questions would be useful. That is what I am saying. If members around the table are happy to spend £135 million plus or whatever extending the system without knowing the basis on which we are spending those monies or their not being assured of the sense of the spend, then fine, all right? I cannot do very much about that, but from my own particular point of view, having been promised by the Council of Ministers the opportunity to sit down, no holds barred, open, cards on the table and discuss all the different systems, water-based or non-water-based, of dealing with our sanitary facilities, those discussions have not taken place and that is my major objection.

**The Deputy of St. Martin:**

Would you agree though, Minister, even if we went for a non-water-based system today or tomorrow that we still need to replace the plant at Bellozanne to get us through the period between now and the time when the whole Island would be on a non-water-based system?

**The Minister for Planning and Environment:**

There may well be an argument for that, yes. If flows are reduced to a level that still enables the plant to continue to operate for the population that it was designed for, then fair enough, but if you read the technical reports as well, we are over by a factor of 2 and it is pretty clear that by continuing to just add extra capacity by hooking up to new properties, that is not necessarily making the system any easier to run with the network that we have got. We have not been shown the proper flow diagrams for the pumping stations, most of which are under-capacity. We have not been shown whether or not by expending monies to upgrade those pumping facilities that the system is going to be bettered in any shape or form. Now, people might say: "I do not want to look at that technical data or engineering information" but I feel for such a large capital expenditure we should have some Members of the House able to be interested in these things before we can convince ourselves that this represents the best application of funds and the best that we can do in environmental, social and economic terms.

**Deputy J.H. Young:**

It is our job, Minister, obviously to tease out those issues and make comment on them, but can you help us on this issue of flow rates, Mr. Morris, please?

**Mr. D. Morris:**

Going back to something you said earlier, Minister, about sedimentation, you might know more than me about this, I am merely going on what is in the strategy, that sedimentation is generally within St. Helier. Is that correct?

**The Minister for Planning and Environment:**

That is what has been stated. We do have a gravity-based system, but logically the amount of water that you flush at St. John is not sufficient to take your contribution to the network all the way to Bellozanne. It just does not happen, so there has to be other flows of waters in order to wash everything up.

**Mr. D. Morris:**

But at the moment, I do not believe there are any issues further out with sedimentation, I think.

**The Minister for Planning and Environment:**

I do not know, you do not know, none of us know, and I am saying that should be part and parcel of the consideration that is given before we move forward.



**Mr. D. Morris:**

Agreed, but at the moment, the combined sewers are all generally concentrated around St. Helier, again based on the strategy, so that at the moment the flow is getting to Bellozanne via these pumping stations from outlying regions. So I am not sure if there is an issue there. There may be, I agree that it is worth looking into, but the strategy points at that it seems to be working at the moment.

**The Minister for Planning and Environment:**

If that is the case, then fair enough, that should be stated. Equivalently, there was a body of work that was begun to be discussed a number of years ago when I was on the Public Services Department Committee, where we were looking or beginning to look at distributed processing systems, so it may well be that the centralised facility at Bellozanne is better redesigned with distributed facilities and other nodes in different places if indeed the pumping problems are too great to overcome the issues for the population centres that we have got.

**Mr. D. Morris:**

One issue as well obviously at the moment T.T.S. are looking to solve is the problem of infiltration in the system. This may have a significant effect. Well, I expect it would if the numbers they are creating are correct.

**The Minister for Planning and Environment:**

Not only that, from an environmental perspective, which as I say, we have got general buy-in across the States and departments and within the States from Members is the move towards wise use of water, so if indeed you have got an Environment Department trying to encourage rainwater harvesting, kind of the technological attachments, aerated showers and toilet flushing with reduced waterflows and things like that, all of this kind of points in the direction of an integrated solution, which has to be properly assessed. The only point I am trying to make is that I do not think it has been properly assessed and we appear to be rushing.

**The Deputy of St. Mary:**

On the odd occasion that we have a drought, when people are observing those restrictions, the flows still worked at Bellozanne.

**The Minister for Planning and Environment:**

I take issue with you. That is exactly why the system does not work, because the material backs up within the system and the first time we get a downpour, right, the amount of water plus the sediment is too great for the capacity of the system and it is lightly treated and overflows at the cavern, and that has caused the problem with the oyster farmers and everything else. We know

what the problem is: 50 outflows a year is not acceptable, in my view, and dry weather periods exemplify the sense or nonsense of a water-based transport system. If water is important, and it is in drought times, is the best thing you can do with it to defecate or use it to run your back-end system? It is ludicrous.

**Deputy J.H. Young:**

Minister, in our session you have obviously remained strongly in this whole issue about the water-based transport system and therefore a centralised system. In the comments that you gave in writing, I do not recall there was anything of this ...

**The Minister for Planning and Environment:**

No.

**Deputy J.H. Young:**

... and what you concentrated on was alternative technologies of deep shaft ...

**The Minister for Planning and Environment:**

I must put on record that the reason for doing that, at the Council of Ministers - and people can see from the record - I have been asking for the Ministerial Oversight Group to be convened from day one and it has not happened. Things came to a head around about January and it was agreed, because T.T.S. I think were wanting to come to the House to get their proposition through, that we had to keep the Minister for Planning quiet, so a meeting was convened.

[15:00]

At that meeting I expressed my discontent when it appeared that that meeting was just to promote the procurement of the path and the investment path that the T.T.S. Department had been wanting and there was no attempt to discuss a strategy, so it has not happened. So there have been 2 meetings since then; despite having had them all initialled into my diary, they have all been cancelled.

**Deputy J.H. Young:**

Right, so you came back. You have been very clear in the written submission you made, which is what we asked our consultant to comment on, it is about the alternative of deep shaft technology.

**The Minister for Planning and Environment:**

Yes, at the January ... yes, sorry, I missed it.

**Deputy J.H. Young:**

Now, what I am struggling with is that seems to be very inconsistent, because that seems to rely on a water system.

**The Minister for Planning and Environment:**

Yes, at the January meeting, having got a ministerial meeting to which I was invited, it was stated that some comment needed to be made from the Minister for Environment, but the only comment that was expected was for me to come forward with a review of the technology that the T.T.S. Department had chosen. That was the only thing that I was asked to do. I remonstrated and asked why we could not be doing the thing I thought the strategy group was being set up for, but it was made quite clear to me - and the Chief Minister was present at that meeting - that what was not expected from my department officers or from me was to come forward with any consideration of opening up the strategy to look at it in a balanced and open fashion, but only to comment on the technologies that had been chosen by T.T.S. Department to move their argument on.

**Deputy J.H. Young:**

So you were given an instruction?

**The Minister for Planning and Environment:**

I was given an instruction, yes.

**Deputy J.H. Young:**

By whom?

**The Minister for Planning and Environment:**

By the Chief Minister.

**Deputy J.H. Young:**

The Chief Minister gave you an instruction, and the issue is that you have spent a lot time this afternoon, you were not allowed to put in your notes and you therefore confined it to the technology issue, which is the deep shaft. We have only got a few minutes ...

**The Deputy of St. Martin:**

To be quite clear, Minister, the Chief Minister instructed you not to respond to Scrutiny in any other way other than ...

**The Minister for Planning and Environment:**

I was instructed at that meeting to come forward a review of the technology, right, and that is why it has been worded in the way it has, and I worded it slightly ...

**The Deputy of St. Martin:**

For Scrutiny, specifically for this panel?

**The Minister for Planning and Environment:**

I would not go as far as saying that, no. It was specifically ...

**The Deputy of St. Martin:**

Were you not invited to respond to our view? Were you not invited individually to make a representation to the review that we are here today conducting?

**The Minister for Planning and Environment:**

Yes, but only to discuss my review of the technology.

**Deputy J.H. Young:**

No, Minister, the documentation that we had was sent to you and your department before today and we have seen written comments and we have taken advice on them and so on, but it seems to me that you have put in a lot of new material. You are entitled to do that, but it obviously gives the panel a problem procedurally, because you have not covered, I do not think, your reasons for proposing deep shaft technology, which seems to me that does require a water transport system. I cannot see how that fits with what you have told us today, which is that we should have a non-water-based system, which is a very distributed sort of system. I am really struggling with this. So you are not now pursuing alternative deep shaft technology, you are not ...

**The Minister for Planning and Environment:**

At this moment, I am pursuing a proper review, right, to come forward with a proper liquid waste strategy which considers not just proposals that have been put forward for whatever reason by T.T.S., but general proposals across the board to justify either the choice of T.T.S. for the direction they wish to go in, but only after due process and consideration has been given to other alternatives that exist which may offer the Island better routes, either financially, economically or environmentally so that a proper assessment can be made when the issue is brought to the House. If indeed the only reason for bringing things to the House is to get a rubber-stamp endorsement to the expenditure by T.T.S. on the equipment that they want, then do not dress it up as a liquid waste strategy.

**Deputy J.H. Young:**

So the Council of Ministers are aware, are they, of the position you have taken today?

**The Minister for Planning and Environment:**

I think they are aware, yes.

**Deputy J.H. Young:**

Are you presumably going to take that position in the States debate?

**The Minister for Planning and Environment:**

I was intending to, yes, because I think ...

**The Connétable of St. John:**

So you will bringing a minority report forward?

**The Minister for Planning and Environment:**

I am not going to bring a minority report because it is not right that I do so, but I have to make the case that I think we do not really have before us a properly argued liquid waste strategy.

**Deputy J.H. Young:**

Have you written to the Minister for Transport and Technical Services formally to say that to him?

**The Minister for Planning and Environment:**

I have not, no.

**Deputy J.H. Young:**

Will you do so?

**The Minister for Planning and Environment:**

I would have to take advice as to whether or not ...

**Deputy J.H. Young:**

Because otherwise it would be for the Scrutiny Panel to have to put that to the Minister for Transport and Technical Services, what you have told us this afternoon. It did not seem to me that that is the right thing to do. I would have thought Minister to Minister there should be communication.

**The Minister for Planning and Environment:**

I do not think the system works that way.

**The Deputy of St. Martin:**

When it comes to deep shaft technology, you have been promoting that and we know that from the past and from the papers you submitted, but the little information you have given us about it, would you say that you have made the case and properly argued the cause for deep shaft versus conventional?

**The Minister for Planning and Environment:**

It is not for me to make any case for anything, because as you mentioned earlier, the Minister for Planning may well be compromised, but the point I am making, as far as I am able to, is that there is an environmental aspect of best use of facilities, best long-term strategic planning and I do not think we are doing ourselves very many favours with what we have got here at the moment.

**The Deputy of St. Martin:**

As Minister for Planning, do you have an ability to influence the way ... well, you obviously have an ability to influence the way buildings are constructed and how mechanisms within buildings work.

**The Minister for Planning and Environment:**

Yes, that is true.

**The Deputy of St. Martin:**

Why have you not tried - or why have you not full stop - implemented changes to the laws which would, due to the by-law system, change the way we flush toilets or use our water?

**The Minister for Planning and Environment:**

The by-laws are out for consultation at the moment and some changes have been made in that regard in order to allow people, if they so choose, to adopt other processing systems to deal with their human waste.

**Deputy J.H. Young:**

Is that in accordance with the U.K. by-laws?

**The Minister for Planning and Environment:**

Absolutely, yes.

**Deputy J.H. Young:**

So the U.K. by-laws allow this, do they?

**The Minister for Planning and Environment:**

The European by-laws, yes.

**Deputy J.H. Young:**

Not the U.K. ones?

**The Minister for Planning and Environment:**

I think in U.K. as well, yes.

**The Deputy of St. Martin:**

Do Environmental Health have anything to say on dry composting toilets?

**The Minister for Planning and Environment:**

Yes, they do, but I think at the end of the day, the by-laws are constructed in a way that does not force people to adopt the centrally-provided system, providing they can adequately show that they are not going to be poisoning themselves, their neighbours or the wider environment.

**The Deputy of St. Martin:**

Do you not think in parts of St. Helier, if everybody changed to dry composting toilets, that there will be a reasonable chance that we would be polluting or injuring ourselves or making ourselves sick?

**The Minister for Planning and Environment:**

No, not at all. No, no.

**Deputy J.H. Young:**

What about water pollution, Minister? I remember at presentations being told that the majority of our drinking water comes from surface water, it percolates through the rock structure and so on into streams and watercourses.

**The Minister for Planning and Environment:**

Yes, it does, yes, but in the basin of the town, people no longer draw their drinking water from the town springs. The introduction of the sewage facilities were to minimise or to do away with the health problems caused by messing in your water and drinking it at the same time. We have moved on from that. We have a number of reservoirs that provide us with wholesome water, but

we do have the residue of our sewage system that still, through the application of sewage sludges on to land, adds to a chemical ...

**Deputy J.H. Young:**

No, you have made it plain that that is something that you think needs to change, but surely if you have these systems in universal use in the countryside, for example, will that not carry with it water pollution risks ...

**The Minister for Planning and Environment:**

No, no.

**Deputy J.H. Young:**

... into the very drinking water that we want?

**The Minister for Planning and Environment:**

No, no, because ...

**The Deputy of St. Martin:**

You just said, Minister, we went away from Victorian times because we polluted the groundwater, we polluted our drinking water and we separated the systems. We are now advocating going back to a pre-Victorian system of dry composting toilets which you said was the reason we stopped drinking the water that came out of the ground because we ...

**The Minister for Planning and Environment:**

Yes, but dry composting toilets per se - and I am not saying that that is the only way forward - do not pollute the wider environment in the same way as malfunctioning septic tanks and safeways.

**The Deputy of St. Martin:**

But we are not talking about septic tanks and soakaways, we are talking about ...

**The Minister for Planning and Environment:**

Yes, so the key word ...

**The Deputy of St. Martin:**

... a sewerage system connected to a water treatment works.



**The Minister for Planning and Environment:**

Yes, but if it is a dry system, it is not connected to the water treatment works, it is dry. That is the whole point.

**Deputy J.H. Young:**

Are there any of these systems in the Island at the moment?

**The Minister for Planning and Environment:**

There may be one or 2, but it is early days.

**The Connétable of St. John:**

Can we get back the deep shaft process that you ...

**The Minister for Planning and Environment:**

Yes, the deep shaft process was a suggestion made in order to allow 2 particular kind of lines of consideration to be undertaken. One was as extra storage facilities for storm water surges, so there is no doubt in my mind that having spent the huge sums of monies on the cavern facility, which in essence is an underground tank, that if facilities can be afforded by the drilling of a deep shaft well for storm water collection, then that could provide opportunities for collection of that effluent in a way that is minimising the land take. The bore of these deep wells is of an order way less than the surface tanking that we find ourselves with sedimentation tanks at Bellozanne.

**The Deputy of St. Martin:**

So you are saying we need a deep bore empty to take storm water when necessary?

**The Minister for Planning and Environment:**

Sorry?

**The Deputy of St. Martin:**

You are advocating the drilling of a deep borehole which we would keep empty in order to receive storm water in times of ...

**The Minister for Planning and Environment:**

That, in essence, is what we do with the cavern at the moment and the cavern extension is going to be adding to that.

**The Deputy of St. Martin:**

But you are also advocating that system for the treatment of the waste water?

**The Minister for Planning and Environment:**

Yes. The neatness of having an underground kind of facility is that other technologies can be added into the system, and the second suggestion that was made, which has not been looked at properly, in my view, was the opportunity that could be afforded to bioethanol production from the human waste.

**Deputy J.H. Young:**

Are we doing it all in one deep shaft, that is what you are saying ...

**The Minister for Planning and Environment:**

Yes, yes.

**Deputy J.H. Young:**

... it would be both a surface water store, it would be a treatment facility with alternative technologies and - I have forgotten the last one now - bioethanol? So we would do all those 3 things in one?

**The Minister for Planning and Environment:**

Yes, yes.

**The Connétable of St. John:**

But how many of these shafts would we need?

**The Minister for Planning and Environment:**

The shafts, it depends on the diameter and the depth.

**The Connétable of St. John:**

But how many would you ...

**The Minister for Planning and Environment:**

I think for conventional sizes, if you were down to 100 metres and you had a radius of 6, 7 metres, I think we could get away with 2.

**Deputy J.H. Young:**

Where do you put them?

**The Minister for Planning and Environment:**

That is the whole point.

**Deputy J.H. Young:**

That is what I would like to understand, because ...

**The Minister for Planning and Environment:**

The land take, presumably the best place, if we were continuing to enhance the water transport network we have got at the moment, would be somewhere close to the Bellozanne facilities that we have got at the moment.

**Deputy J.H. Young:**

Right, so if it is there, how does the material get to it?

**The Minister for Planning and Environment:**

The material gets to it under gravity, it is the gravity-based system as we have at the moment.

**Deputy J.H. Young:**

Right, so we have a water-based system to get the material to the deep shaft?

**The Minister for Planning and Environment:**

Yes, but the decision would be ...

**Deputy J.H. Young:**

I am struggling here to see what the difference is between that and having a conventional plant on there. I am not advocating one or the other, but I would like to understand what the key difference is for your ...

**The Minister for Planning and Environment:**

There are 2 key differences. One is the smallness of the land take and the fact that deep water wells can be covered to reduce the odour problems that have manifested themselves at Bellozanne since we built it. We expended of the order of £3 million - although I do not think the drawdown ended up having spent all of it - in trying to cover over the sedimentation ponds at Bellozanne in the past. It did not solve the odour problem. We have got residential accommodation just down the valley which has always been known as "Stinky Valley." Deep wells afford people the opportunity to cover over at much, much lesser cost the upper part of the well so that you can minimise the odour problems.

**Deputy J.H. Young:**

Right, so it is less waste and it is the odour control. That is it.

**The Connétable of St. John:**

But surely you have got ...

**The Minister for Planning and Environment:**

It also affords you the opportunity to bolt on other equipment ...

**Deputy J.H. Young:**

Like what?

**The Minister for Planning and Environment:**

... in order to move into kind of fuel production, if indeed that is a direction that people might wish to go.

**Deputy J.H. Young:**

We do not have that now or we would not have that?

**The Minister for Planning and Environment:**

We do not have that now, but we could have that now.

**The Connétable of St. John:**

But surely you have got greater expense in going down into our granite base of this Island?

**The Minister for Planning and Environment:**

This is the point, there are no figures that the department have put forward in order to discount or to count that assertion. They have just said: "It is too expensive."

**The Connétable of St. John:**

But if you look at deep shaft processing, generally it is used in other parts of the world for industrial waste and the like more so than for the waste we would be wanting to use it for.

[15:15]

Also, there are big health and safety issues. Now, to move to the direction you are speaking of at the moment is, I would say, just looking at a ballpark figure, it is out of the window, because your numbers are going to be so expensive to do the job compared to putting in a conventional system. As we know the conventional systems that we have currently got, to move across to something like deep shaft, it is going to be far too expensive for an Island because of what we are going to be using it for. If you were using it for industrial purposes, I can understand it, but for using it for our

own waste system, I think you need to get your numbers ... you have been talking to others for a long time, so you must have numbers in the back of your head of how much this could cost the Island compared to the millions we are spending at the moment.

**The Minister for Planning and Environment:**

It is not for me to come forward with those numbers, or otherwise you are putting the Minister for Planning in the position of saying: "I am only going to permit things that I want" and that is not the process that I am in.

**The Deputy of St. Martin:**

I would just like to question some numbers, Minister. You mentioned a shaft 100 metres deep, 6 or 7 metres wide. I have just done the calculation. That is roughly 3,000 cubic metres.

**The Minister for Planning and Environment:**

Yes.

**The Deputy of St. Martin:**

You have mentioned 2 of them. That would be 6,000 cubic metres.

**The Minister for Planning and Environment:**

Yes.

**The Deputy of St. Martin:**

The cavern is 25,000 cubic metres.

**The Minister for Planning and Environment:**

Yes, and the cavern fills with lightly soiled storm waters, right, that have to be treated in a fashion that kind of converts them into black waters.

**The Deputy of St. Martin:**

But you earlier mentioned your deep shaft technology also might act as a storm ... you wanted to use it for storm catchment. You said storm catchment, treatment and ethanol.

**The Minister for Planning and Environment:**

Yes.

**The Deputy of St. Martin:**

You are not going to get much storm capture in a shaft which is 3,000 metres when the cavern is sort of 8 times that size.

**Deputy J.H. Young:**

Also, Minister, you have got to get the storm water to there. Does that not suggest to you that the critical thing is the pumping rates and the flows on the pumps to get it to there, is it not?

**The Minister for Planning and Environment:**

This is crazy. I mean, you are asking me to come forward and to design a system for T.T.S., right ...

**Deputy J.H. Young:**

No, what we are trying to do is understand your arguments, Minister ...

**The Minister for Planning and Environment:**

... as the Minister for Planning.

**Deputy J.H. Young:**

... we are trying to understand and get clarity so that we can make some comments that helps the States deal with this and make these decisions.

**The Minister for Planning and Environment:**

Okay, right. Well, approach it from the direction that the States have decided that they support sustainable urban drainage systems, right, and we have committed to an expenditure on the extension of the cavern facilities. There is also talk by T.T.S. of further such facilities if indeed the cavern still cannot accommodate those flows. Part of the problem of the sewerage system not working in an optimal fashion is because of the dilution factor of the sewage and the fact that we have had combined systems. We are producing too much water that is lightly soiled and these other more industrial processes require a thickened effluent. If you have less waters that are being put into the combined system, and that is in essence the direction that the T.T.S. Department are wanting to go, inevitably you are going to be taking off a huge body of waters that flow through the system, which flush the system - and that is a separate side issue - to an extent that may make the system capable of running with a thickened effluent without any further treatment, in which case the deep well systems may well come into their own. But I am not here to design the systems, what I am saying is that I should be ...

**Deputy J.H. Young:**

I accept that, Minister. Minister, I think in view of that, because obviously you have come out with a lot of very different positions today that are going to give us ... we are going to have to think carefully how we respond to that. Unless my colleagues disagree, I am going to close the session now, because we have got 15 minutes until the next one and I do not think we can make progress ...

**The Deputy of St. Martin:**

Has our adviser got any questions before we close?

**Deputy J.H. Young:**

John, do you?

**The Deputy of St. Mary:**

No, I am fine. Thank you.

**The Deputy of St. Martin:**

I think the issue of the concentration of the effluent is very valid and we will certainly take that forward.

**The Minister for Planning and Environment:**

Yes, and if you play it all the way back, you have to say if you are producing 250 grams or thereabouts of human waste a day, how much water do you need in order to deal with the problem? In my view, I think you can get away with virtually none. That may be an extreme ... well, it is an extreme kind of way of looking at things, but equally, the amount of water that we use to flush the system at the moment is at the opposite end of extreme. There is a solution somewhere in between which is sensible.

**The Deputy of St. Martin:**

I accept all that, Minister, but it is interesting that we are trying to resolve this afternoon now an issue of basically replacing the entire network of sewerage system that we have got with something completely different, which it is hundreds and hundreds of years old.

**Deputy J.H. Young:**

I think I am going to close it now. I think we have got to the nub of your argument now. Thank you for that and now I am going to formally close the hearing. Thank you for your attendance.

[15:20]