

**STATES OF JERSEY**  
**Environment Scrutiny Panel**  
**Air Quality Review**

**MONDAY, 26th NOVEMBER 2007**

**Panel:**

Deputy R.C. Duhamel of St. Saviour (Chairman)  
Deputy P.V.F. Le Claire of St. Helier  
Deputy C.J. Scott Warren of St. Saviour  
Professor D. Laxen - Advisor

**Witnesses:**

Mr. P. Chapman - Soltron

**Deputy R.C. Duhamel of St. Saviour (Chairman):**

I have got to read out the notice first of all so it is important that you fully understand the conditions under which you are appearing at this hearing. The panel's proceedings are covered by parliamentary privilege through Article 34 of the States of Jersey Law 2005 and, as a result, you are protected from being sued or prosecuted for anything said during this hearing although this privilege should obviously not be abused. The proceedings are being recorded and the transcriptions will be made available on the Scrutiny website. All right, okay, so you are Mr. Chapman?

**Mr. P. Chapman:**

Yes.

**Deputy R.C. Duhamel:**

Of X-Mile.

**Mr. P. Chapman:**

Soltron. X-Mile is our brand name. Soltron is our company name.

**Deputy R.C. Duhamel:**

I note that you have taken the opportunity to write some answers to some of the questions that we were going to ask you so I think what we will do to start off with is to just go through some of these areas and maybe ask you to expand a little, if it is required.

**Mr. P. Chapman:**

Okay.

**Deputy R.C. Duhamel:**

So I think the place to start is with question one. If you could tell us a little bit about the product that you are promoting through your company, what it does and why it is of benefit, you think, to any air quality strategy.

**Mr. P. Chapman:**

Okay. Can I firstly point out that the answers to your questions were given by our technical director, Hugo Wall, who came over on Friday to meet with Dr. Laxen. I probably will answer some of these questions in layman's terms, in my terms, I have been working with the product rather than technical terms.

**Deputy R.C. Duhamel:**

No, that is fine.

**Mr. P. Chapman:**

The company, it is an enzyme fuel technology that was developed in Japan. The enzyme is designed to activate in the fuel and to aid combustion and to keep the fuel clean so you get a cleaner burn with less emissions. The relatively small amount of product needed to affect the fuel will be talked about later but it is a very safe, effective way of treating fuel to have lower emissions and better fuel economy.

**Deputy R.C. Duhamel:**

So how does the product work?

**Mr. P. Chapman:**

The enzyme reaction is - as Dr. Laxen might explain - is different to a chemical reaction. It aids the molecule of the fuel to ignite properly but also cleaning the fuel as well and cleaning the tanks but the actual enzyme will aid the molecule of fuel to ignite and help it burn properly. If the fuel does not ignite properly in the combustion chamber, that is where you start to get your pollution. Unburnt fuel is your pollution. The enzyme seems to help the fuel to ignite properly, giving a better fuel economy and lower emissions.

**Deputy R.C. Duhamel:**

Now, there was an article that appeared in the *New Scientist*, a magazine, on 17th November 2007, and it was headed “Death on the Ocean Waves” and I will just read it, if I may: “Pollution from ships in the form of tiny airborne particles kills at least 60,000 people a year and unless action is taken, the toll will climb. So says a report investigating the number of deaths that can be linked to soot emissions from the shipping industry carried out by James Corbett of the University of Delaware, Newark, and colleagues. Ships release between 1.2 and 1.6 million tonnes of airborne particles each year, mostly from burning shipping fuel. Particles are less than 10 micrometres across and include various carbon particles, sulphur and nitrogen oxides. Now, they are small enough to enter the blood and can trigger inflammations which eventually lead to heart or lung failure. Deaths caused by these particles worldwide will increase by 40 per cent by 2012 the team projects. Corbett’s team used 2 independent inventories of the emissions produced by the shipping industry and they fed these figures into climate models to predict where winds would carry the emissions and added population density figures for the areas affected. Using this, they were able to compare the concentrations of the particles with the incidents of premature deaths to arrive at an estimate for the total number of deaths that can be attributed to shipping emissions.” They go on to finally state that: “A significant number of deaths are related to fuel quality.” Now, would you like to comment on that particular article?

**Mr. P. Chapman:**

I have not seen that article, but, yes, that is probably common knowledge that emissions will cause harm. I think everybody knows that but it is probably a good article to read. The fuel on ships is pretty basic fuel, and one of the cheapest they can

possibly buy, and the basic fuel is the most poor quality fuel. We are working with Stena Line at the moment to - I think you are aware of the research or of the testing we have done with them on the same lines - to reduce their pollution and I think if you read in the report, the outcome of the 2 tests -- the 2 ships which were using the heavy fuel, the reductions were quite significant. So much to say that Stena Line have agreed to use this technology. Maersk, P and O Shipping, and various other big companies are waiting. Well, in fact, they were asking to join into the programme but our director in Holland decided to wait until Stena Line had officially signed and signed off the testing because the decision was made not to test any more because the tests with Stena Line were so good. Now, the next step is to supply the companies that want the product.

**Deputy P.V.F. Le Claire of St. Helier:**

Can I just ask you, are the tests in Stena Line complete now?

**Mr. P. Chapman:**

They were completed -- on the heavy fuel they were completed 3 months ago. On the light fuel, at that meeting, they decided to continue on their latest brand new ship light fuel. That is underway for another 3 months but the actual decision has been made to use it in heavy fuelling.

**Deputy P.V.F. Le Claire:**

We have spoken to you before; is the use of the fuel in Stena reducing the emissions? You also spoke about increasing fuel capacity and maintenance as well.

**Mr. P. Chapman:**

Yes, that is a very big ...

**Deputy P.V.F. Le Claire:**

Are those results going to be available? Can you speak about that?

**Mr. P. Chapman:**

You will have the results, I think, in the file.

**Deputy P.V.F. Le Claire:**

Right, okay.

**P. Chapman:**

The maintenance results, we also supplied the Dutch fishing fleet in 1995, deep sea fishing boats, who use Caterpillar engines and, in fact, they lease them from Caterpillar. Caterpillar Pon, a Dutch company, have been analysing the oil from these engines. Because they own the engines, at the end of the lease they resell them somewhere else so it is in their interests to keep the engines well maintained, and they used to change the oil every 1,500 hours. They have now agreed they can change the oil, cut them back to 3,000 to 4,000 hours because the quality of the oil is so good, there is no carbon breaking down the oil and the engines are in extremely good condition and, as well, the emissions are extremely low.

**Deputy P.V.F. Le Claire:**

So the other question is what is the economy of these vessels? If we are to pick this up into Jersey legislation perhaps and say that Jersey vessels must introduce these types of measures to transport people from a ferry perspective, they may start crying foul that it is making them uncompetitive. How would we address that?

**Mr. P. Chapman:**

Well, no, we are averaging between sort of 4.8 per cent and over 10 per cent on ships on heavy fuel or on light fuel as well. Shipping is -- they will quantify it. There is another way of, the power output from the ships, they can drop the revs down and maintain the same power output using Soltron and achieving an even higher fuel saving. But we are seeing on Stena Line between 4.6 per cent, I think, and 7.8 per cent. On these Dutch fishing boats, they are reporting back - the boats that have the technology to monitor their fuel economy - between 8 and 12 per cent.

**Deputy P.V.F. Le Claire:**

Just one last question if I can on the shipping line because we are obviously concerned about the emissions in this review. In Holland where these ships are operating, do they face charges if they emit ...

**Mr. P. Chapman:**

I was under the understanding they do. If they are seen to be producing high emissions when they enter and leave the port, they can be called in and fined on that basis. That is how we managed to ... why we went to Stena Line because somebody had seen a report somewhere that Stena were facing huge fines for polluting, and they were open to us. They had tried everything, they had admitted they had tried everything on the market and, in their words: "Nothing worked and if you can produce -- if you can give us one per cent fuel economy, we are interested and if you can cut our emissions by a percentage, we are interested." After 3 months -- well, in fact, after 6 months, the engineer presented his report in the Isle of Man to all the heads of departments from Stena Line. Halfway through his report, they all said: "We have heard enough, we have seen enough, we have heard from all our engineers. We are very, very happy, more than happy."

**Deputy P.V.F. Le Claire:**

These people from Stena, would you be willing to share with them the information and the results to this panel in the future? Would you be able to put us in touch with them?

**Mr. P. Chapman:**

Yes, I think I have given you the report. The chief engineer that carried it out, his job is to find solutions to their problems.

**Deputy P.V.F. Le Claire:**

Do we have his contact information?

**Mr. P. Chapman:**

Yes, it is in the file.

**Deputy P.V.F. Le Claire:**

Do you have any objection if we contact him personally?

**Mr. P. Chapman:**

Not at all, no, he is open to contact. Two points I might point out, we would like to keep Stena Line and B.P. (British Petroleum) out of public domain for now because we have got other competitors who -- as I say, there is about 100 other products out there and they are all desperate to prove their products over ours. So the fact that Stena have tested over such a long period our product and are happy with it, until it is -- to put it into all the fuel is going to take some time. Until that is all done and finished, we are not making that public. There is no need for us to take that into the public domain. We are not using it for advertising, we have got enough to get on with so ...

**Deputy P.V.F. Le Claire:**

So can we just be certain before we proceed that this is a public hearing so anything you tell us in confidence, and I do not know if ... are you here as a member of the public?

**Male Speaker:**

Yes.

**Deputy P.V.F. Le Claire:**

So anything you tell us that is commercially confidential obviously we can keep but if you are going to mention it this morning, just be wary of the fact that the public are present at the meeting and they will hear. The media can enter and if you have something to tell us confidentially, perhaps we can do it after the public hearing.

**Mr. P. Chapman:**

Well, okay. Stena Line is not exactly confidential. I mean, everybody in the industry knows what we are doing. Maersk have been almost begging the Dutch chap in charge of the testing when he finishes with Stena to go to his company and start testing with his company, but the decision at the board has been no more testing. It has been proven and it will be available to these companies in January.

**Deputy P.V.F. Le Claire:**

But just so we are clear, for your benefit as well as ours, is that anything from here on in that you say is going to be a matter of public record.

**Mr. P. Chapman:**

I understand. Yes, I did mention it, yes, okay.

**Deputy P.V.F. Le Claire:**

If you have anything to tell us that is commercially sensitive or confidential, then I believe the panel will accept that but not at this meeting.

**Mr. P. Chapman:**

Okay, when I move on to ...

**Deputy P.V.F. Le Claire:**

When we are finished and ...

**Male Speaker:**

I am prepared to move out if it will make it more convenient for you.

**Deputy R.C. Duhamel:**

I think we will ask you to do that but not at the moment.

**Mr. P. Chapman:**

No, no, before I say anything that I do not want, I will ... So Stena Line, you are asking if ...

**Deputy P.V.F. Le Claire:**

I think just if we could maybe have an access to the people that you were speaking with there and then if you can just have it ready, we can contact them.

**Mr. P. Chapman:**

I have already sent people to Holland to meet with him so that will not be a problem.

**Deputy P.V.F. Le Claire:**

That is great.

**Deputy R.C. Duhamel:**

Just to finish off on that one, to what extent are the emissions from ships greater when the ships are coming into harbour or leaving the harbour?

**Mr. P. Chapman:**

They seem to be greater on start up. If they are coming to the harbour and do not -- if they switch off overnight, the start up is very bad because the fuel is cold and you are going to get very high output of emissions there, but when they come in and leave the engines ticking over, waiting for passengers to load up, and they are on a very tight schedule and they go again, it is like you will see as they accelerate just off Elizabeth Castle, you will see a huge cloud of black umber emissions. It seems to clear after about 20 minutes. It seems to go. But if you follow the boat across on a warm day, you will see the brown haze behind the boat and if you go on board and stand at the back, you will see the brown haze is there. But under full power, it is less. The emissions are still there but you will not see the black particles as badly as when the fuel is cold when the engines are just ticking over.

**Deputy R.C. Duhamel:**

Has any work been undertaken by your company with the Electricity Company?

**Mr. P. Chapman:**

Yes, we did. Through various means we managed to have permission from them to do a test. The reason for them not giving us a test to begin with, a few years ago, they tested an oil product, a machine that would recycle oil called Golden Oil, I believe, and the idea of this was to -- you could take old oil, clean it and put it back in the engines to use again and it failed and they had problems with the engines. That was the reason they gave us for not wanting to be guinea pigs with anything else. They made a decision, which is fair enough. A few years later, we tried again because we had done some tests at Coolkeeragh Power Station in Northern Ireland, which proved successful. They agreed to do a trial. What they were worried about, their fuel in the storage it was not being used, it was there purely for storage in case of emergencies and it was going off, it was congealing and the enzymes will rejuvenate the fuel. So they did agree after long, long meetings that they would try it in the day tank. It was put in and I believe it was run for less than an hour and one of the temperature gauges

on the boiler started to rise so they closed everything down. Now, what they did not give us a chance to explain, inside the pipes, they were all blocked up. The temperature gauge probably had not worked for the right temperature for years. The enzymes had cleaned the oil inside the pipes to allow the temperature gauge to work properly. Had they allowed us to carry on for 24 hours rather than one hour, they would have started to see everything running smoothly but it was all closed down with the effective words, I think it was: "Well, we told you this would not work and that is it, that is the last of the matter."

**Deputy P.V.F. Le Claire:**

Who were you dealing there? What was the name of the gentleman, do you remember?

**Mr. P. Chapman:**

A scientist, yes -- there was about 4.

**Deputy P.V.F. Le Claire:**

Maybe you could supply it to us when you recall.

**Mr. P. Chapman:**

It is about 4 years ago, I cannot ...

**Deputy R.C. Duhamel:**

There have been no further trials?

**Mr. P. Chapman:**

Not in Jersey, no, no. We have decided to -- well, from that actual trial, we discovered something ourselves that led to bigger things that we -- nobody understood how quickly this cleaning of the inside of the pipes took place. We did not know before how quickly it would -- if it would work and the consequence of that happening, our technical director managed to get trials at a university in Egypt on this particular problem, cleaning the pipes without putting a machine in to clean them by using enzymes and his theory was based on Jersey power stations, proper results, and

it led to further investigations. In fact, that part of the enzyme technology will be being used shortly by a major fuel company to keep their pipelines clean.

**Deputy R.C. Duhamel:**

Presumably, then, once you are in a greater state of knowledge, you will presumably be wanting to re-approach the Jersey company or not?

**Mr. P. Chapman:**

Well, I hope within a year, they will be coming knocking on my door because we have the technology to help them. I am now to the point, I am a bit fed up with offering this to people and being refused and being ridiculed. No, it is there, the technology is there, it is being used by people who understand it. When these people want it, they will have to come and ask for it.

**Deputy R.C. Duhamel:**

The other big contributor to Island air quality is obviously aircraft and aircraft emissions. Is your product useful to the aviation industry?

**Mr. P. Chapman:**

Extremely useful, yes. Extremely useful. It will help to eliminate the water that is in the fuel which is a big problem in aviation fuel. It will reduce emissions but, unfortunately, the money needed to do the trial, to do the testing, obviously it needs to be tested extremely well in aircraft fuel but it has been -- in fact, the idea was to go one step further with J.E.C. (Jersey Electric Company). They had a gas turbine engine up at ... the next step, once we proved it in the power station was to run tests in conjunction with them on the gas turbine engine to prove what it could do for aircraft engines, obviously saving us money because the testing will be done locally and it will be done in conjunction with the J.E.C. We were looking at probably paying, I think it was about £500,000 for Rolls Royce to do the tests, to get it passed for the next stage, and then the next stage to get it passed to be used in aircraft fuel. It is something we are looking at. Mr. Wall has written a paper on the subject. He is waiting for the funds to carry it out because he believes that is where Soltron can really come into its own, aircraft fuel. But at the moment, ships is what people see, shipping, car pollution, boilers.

**Deputy P.V.F. Le Claire:**

What about the military, because obviously the military have a number of applications specifically in relation to obviously their vehicles, their tanks, their armoured personnel carriers, their aircraft obviously, the maintenance would be reduced in helicopters, et cetera, but also the ships where they have gas turbines in some of the larger vessels.

**Mr. P. Chapman:**

Yes, yes, because of the enzymes there is a problem in diesel fuel. You can get a bacteria growing in the fuel commonly known as the “diesel bug”, *Cladosporium Resinae*, I believe it is called. When you store diesel fuel, as the Navy do and the Army do in various parts of the world, you get this bacteria in the fuel. This causes huge problems, blocking filters and causing vehicles to smoke heavily so they can be seen -- smoke trails can be seen before they are heard coming. So that was a big problem and they were using a biocide to keep the tanks clean which is like a weed killer, which has been banned by the Navy, I believe, because it was toxic. The enzyme technology, enzymes suffocate the bacteria, kill the bacteria and instead of dropping them to the bottom of the tank where they can be disturbed at a later date, they go into suspension and they get sucked through the filter to -- the bacteria breaks down and gets sucked through the filters, broken down even further, burnt off and everything. The tanks are kept clean. To that respect, we managed to get, after testing -- they were only interested in testing it for killing the bacteria at the time.

**Deputy P.V.F. Le Claire:**

Who was this, the M.O.D. (Ministry of Defence) or ...

**Mr. P. Chapman:**

The Navy.

**Deputy P.V.F. Le Claire:**

The Navy.

**Mr. P. Chapman:**

And we have a N.A.T.O. (North Atlantic Treaty Organisation) stock number for the product. For them, they only know it as a bacteria killer, as a biocide, but not ...

**Deputy P.V.F. Le Claire:**

Have you not made any effort to discuss this with the M.O.D. or ...?

**Mr. P. Chapman:**

Personally I have not. Mr. Wall, who came over on Friday, has. He has been to very high level meetings but, again, it is committee meetings and it takes an awful lot of time to get to the right people. We are only a small company and we just did not have the time to pursue it further. We have pursued it in another country -which again I will tell you later which country it is - for their Army and Navy and it has proved very successful there and the orders are coming in. Once that is official, we can then go back to the people we are dealing with in England but we are -- because it is such a new technology and people do not really understand how it can work, it is very difficult to get to the right people for them to say: "Yes, we will have it" and so in England we have backed off from marketing it in the U.K. for a while. It just seems to be too difficult to ...

**Deputy R.C. Duhamel:**

Have any discussions taken place with the Environment Minister or the Environment Department?

**Mr. P. Chapman:**

That is a sore subject at the moment. I approached Senator Cohen -- well, I did not approach, I sent him an email asking for a meeting in October last year. He suggested I meet with Chris Newton and we set up a meeting for 11th November at Howard Davis Farm. I went up to explain to Mr. Newton exactly what we had and what we could do to help the environment in Jersey. During the course of that meeting, within the first 5 minutes, it was quite obvious we did not really hit it off. Mr. Newton, his main concern was the fact that our advertising material suggested that it was not a chemical product. He was most upset that we were using the advertising that it was not a chemical product when, in fact, he said the enzymes are chemicals. I tried to explain to him that when we say "chemicals", we mean the toxic chemicals that are

manufactured in laboratories to aid the fuel to combust. They are quite toxic whereas the enzyme is a natural occurring product that is used to treat fuel. He was quite insistent that he did not want to take it much further saying that, as a scientist, he could not see -- he could not agree that it was not a chemical. So I made the suggestion that Mr. Wall, our technical director, came to Jersey to meet him and talk on his own level about the product. So a meeting was set up between Mr. Wall, Mr. Newton, Mr. Richardson, Head of Transport and Technical Services, again, at Howard Davis Farm and I bought over, at my own expense, Mr. Wall for the day for the meeting. Senator Shenton was asked to come along to see. I have known Ben for a number of years and I had already approached him on this product and he seemed to suggest that the environment was the way to go, see Freddy Cohen and Chris Newton. Ben was asked to come along by ourselves but, in fact, Mr. Newton and Mr. Richardson did not want him there and they asked him to leave after 15 minutes. We still do not know why. We were not allowed to record the meeting. There was no secretary involved at the meeting. There were just the 4 of us. Mr. Wall started his PowerPoint presentation. Every presentation, every test and trial that we showed them was dismissed, pooh-poohed. They were only interested in the negative side of things. In fact, Mr. Richardson came late to the meeting. He missed the first half hour of the presentation. Was asked if he wanted to see the rest of it. He said: "No." We showed him various tests where emissions had been reduced at -- the tests were carried out at testing stations in Sweden and in Holland. He did not want to see them, dismissed them. Bearing in mind that he had admitted that Soltron had been used in the Public Services Department for 4 years, he decided that they did not need it any more. With them having Euro 3 engines, our product did not work in Euro 3 engines. When Mr. Wall heard that, he showed them a test from A.V.L. (Anstalt für Verbrennungskraftmaschinen List) proving it did work in Euro 3 engines and Euro 4 engines, he said: "I do not know who A.V.L. are. It does not interest me." He was not interested at all. Then the meeting was cut short. That was the last we heard from them. I continued to send emails to Senator Cohen, trying to have a half hour meeting with him, friendly face-to-face, to explain what we are doing, where we are going. I even offered him the chance when he was in South Africa next to go and visit our company there, we were dealing with a fuel company there, have a day with them, visit them and see what is happening so he could come back here and say: "Look, I know this works, we need to take this further forward." I had no reply, no reply. I

must have sent 8 emails and then last month, the last email I sent to him, he came back and said: "I am not interested in this product, I am not going to endorse this product. I have not heard from you before. I have only heard from you once before when" -- I emailed back and said: "Well, I have tried to get hold of you 7 or 8 times." We discovered that my emails were never passed on to him so all my requests to have a cup of coffee and a chat about the product he never even saw. They were all either deleted or were not passed on to him. The Environment Department seemed to take the decision that this was not a product they were interested in and we were like a nuisance to them.

**Deputy R.C. Duhamel:**

Are you aware that, in fact, the Planning and Environment Department are the lead department for proposing an air quality strategy for the Island?

**Mr. P. Chapman:**

Yes, that is why we approached them.

**Deputy R.C. Duhamel:**

So would you say that the treatment that you received in any discussions you had with that department or, indeed, the Transport and Technical Services Department who do have an interest in the issue as well, has been less than satisfactory to what you would expect to a department who does have the overriding responsibility for dealing with the issues that ...

**Mr. P. Chapman:**

I am actually saddened by it. I am saddened by it. Every time we see Senator Cohen in the paper going on ecoActive, and saying: "Use this, use that, put light bulbs here, we are going to do this, we are going to that." Knowing what this product can do instantly, I was saddened and upset by the way we were treated by Mr. Richardson and Mr. Newton.

**Deputy R.C. Duhamel:**

Has your company attempted to estimate the percentage improvements, not only to the emissions but also to the fuel efficiency if, indeed, your product was undertaken on a larger basis for most of the fuels that are burnt in the Island?

**Mr. P. Chapman:**

We have not done an overall study on the Island itself but we launched -- in Holland they launched the product -- the fuel was launched under a brand name X-Mile in garages in Holland, Germany and France. We decided after the failure of the Environment Department not taking us seriously, we decided to launch X-Mile in the Island. Before we did that, we did emission testing on and mileage testing on a number of vehicles. We then launched X-Mile -- well, we had one pump with X-Mile in and we did a back-to-back before and after emission testing and in every single vehicle we were reducing hydrocarbons, on the meter, averaging 50 per cent. Now, it is very hard to quantify how we get to there but hydrocarbons definitely 50 per cent. Now, C.O.2 (carbon dioxide) is reduced because you are using less fuel and most of our test drivers were taxi drivers. They were reporting back between 7 and 10 per cent fuel economy and now that they have used it longer, they are coming in and saying it is over 10 per cent, now that it has been in more than 3 or 4 tanks. But we are going back to our government testing at T.N.O. (Netherlands Organisation for Applied Scientific Research), where we are using these figures because these tests were done on machines that were - I believe, Professor Laxen understands that this department has got the technology to do the correct emission testing on the correct machines rather than just a little hand-held machine in the exhaust pipe. Their results were in the order of, I think we agreed, hydrocarbons 44 per cent reduction, NOx 7.29 reduction. They did not do a fuel economy -- oh, yes, sorry, it was 2.41 per cent but that was based on C.O.2 reduction.

**Deputy P.V.F. Le Claire:**

When you said the systems they have are proper systems to test emissions and not the ones you just stick in the end of the exhaust pipe, what do they at D.V.S (Driver and Vehicle Standards), have you any idea?

**Mr. P. Chapman:**

The diesel gas analyser, you usually put the pipe in the exhaust pipe and it measures the density of the smoke.

**Deputy P.V.F. Le Claire:**

Is that the comparison you were making?

**Mr. P. Chapman:**

Yes, but the petrol monitor at D.V.S. is probably the same as most garages over here. We bought a hand-held one which was good enough for us but it probably would not be good enough for government testing.

**Deputy P.V.F. Le Claire:**

So the government testing that Jersey conducts at D.V.S. to your knowledge is the type that they just stick -- and the one that they tested on your vehicles was the one they just stuck in the end of the ...

**Mr. P. Chapman:**

Yes, they put it in the exhaust pipes.

**Deputy P.V.F. Le Claire:**

Do they have anything better than that down there to your knowledge?

**Mr. P. Chapman:**

No, no, they have not. They have still the S.A.N. (Stochastic Automata Networks) analyser which is probably 10 years old and they have still got the petrol gas analyser which again is probably about 10 years old.

**Deputy P.V.F. Le Claire:**

Is your knowledge certain, have you been down there recently to see what they have got?

**Mr. P. Chapman:**

Yes, we went down with the Channel Television. They filmed a report on one of their vans and we went down to do a diesel one, their diesel emission tester was not

working and had not been working for a few months so we decided to do a petrol van and we got a 38 per cent -- within half an hour, 38 per cent reduction in hydrocarbon.

**Deputy P.V.F. Le Claire:**

Is their equipment, to your knowledge, only capable of being used in the garage or can it be used elsewhere.?

**Mr. P. Chapman:**

If you took your car to any service station, they would have the same equipment.

**Deputy P.V.F. Le Claire:**

Is it possible to take that from the garage and use it in a lay-by testing ...

**Mr. P. Chapman:**

Yes, they do that. They go to the car park on a regular basis and they will do you free emission testing.

**Deputy P.V.F. Le Claire:**

Why do they do it in the car park?

**Mr. P. Chapman:**

Car? I believe it is easier for people to just pull in, leave their car there and they can have it tested while they are doing their shopping.

**Deputy P.V.F. Le Claire:**

So it is possible for them to take their equipment from the D.V.S., to your knowledge, to a car park and do free testing which they do in the car park?

**Mr. P. Chapman:**

Yes.

**Deputy P.V.F. Le Claire:**

They do that at St. Peters, do they?

**Mr. P. Chapman:**

I think they do that in ... probably was St. Peters, yes.

**Deputy P.V.F. Le Claire:**

How long does it take for them to test the average vehicle?

**Mr. P. Chapman:**

One test is probably ... take less than 5 minutes.

**Professor D. Laxen:**

While we are dealing with the T.N.O. emissions that you were just citing, the information that we have before us is that the actual fuel consumption deteriorates -- improves ...

**Mr. P. Chapman:**

Improves, yes.

**Professor D. Laxen:**

Oh, sorry, because it is not presented as a ...

**Mr. P. Chapman:**

It is also that fuel economy - I do not know if Hugo explained - is based on the C.O. reduction rather than somebody driving in a drive cycle. They did it based on C.O. reduction.

**Deputy P.V.F. Le Claire:**

This is confidential, this information, is it?

**Mr. P. Chapman:**

No, not at this time.

**Professor D. Laxen:**

It does look -- it is litres per 100 kilometres.

**Mr. P. Chapman:**

Yes.

**Professor D. Laxen:**

It is a greater consumption with the Soltron added.

**Mr. P. Chapman:**

No, it is, - if you look down the bottom, it is the final drive - the final is 2.41 per cent improvement.

**Professor D. Laxen:**

It is not clear to me that is an improvement.

**Mr. P. Chapman:**

Okay. How is it not an improvement?

**Professor D. Laxen:**

Because it is based on the numbers to the left and there is a higher 5.9 litres per 100 kilometres with the Soltron and 5.8 litres per 100 kilometres without the Soltron.

**Mr. P. Chapman:**

The fuel consumption, one litre for 100 kilometres when using ...

**Professor D. Laxen:**

That, to me, looks like using more fuel per 100 kilometres with the Soltron than without.

**Mr. P. Chapman:**

Yet the hydrocarbons are down by 44 per cent.

**Professor D. Laxen:**

Yes.

**Deputy P.V.F. Le Claire:**

We have been handed this as part of the paperwork we have received today. It is basically a piece of paper, just for the purposes of the transcript, that has been supplied by your company to give the distinction between the standard motor vehicle and the Soltron added vehicle.

**Mr. P. Chapman:**

Yes.

**Deputy P.V.F. Le Claire:**

Can I just ask, because we are trying to ascertain whether or not there is a reduction in fuel consumption and Professor Laxen has pointed out that it looks to him that it looks like it has increased. I must say to me, on the first reading, it looks like that shows an increase as well, although we do take on board the reductions you mention. Can I just ask in relation to the mileage kilometres at the top, it says the standard one has got 77,667 and then the other one has got 119,947. What does that mean, can you explain what ...

**Mr. P. Chapman:**

When they started the test, it had done 77,000 miles, the vehicle was an average, everyday vehicle that is being used and their test was carried out over a year up to 119,000 kilometres.

**Deputy P.V.F. Le Claire:**

Up to 119,000, okay. So it went from 77,000 to 119,000 during these tests?

**Mr. P. Chapman:**

Yes.

Normally you would expect to see a car that age and mileage going up, that everything alongside would go up. Emissions would go up.

**Deputy P.V.F. Le Claire:**

So just to be certain, then, I mean ...

**Mr. P. Chapman:**

I do not understand the -- I was led to believe it was 2.41 percentage fuel economy saving based on the C.O. reduction.

**Deputy P.V.F. Le Claire:**

But your C.O.2 reductions are up as well on this?

**Mr. P. Chapman:**

Well, C.O.2 is reduced on fuel economy.

**Deputy R.C. Duhamel:**

I think, I mean, now it has been raised, we will write to you and ask you to ...

**Mr. P. Chapman:**

Well, this is the reason we bought Hugo Wall over, our technical director, to answer those questions, I am afraid. As far as I can see, their hydrocarbons are down 44 per cent, which would relate to using less fuel. If there is a mix-up there somewhere, we can get to the bottom of it, but the Dutch Government were happy with it and nobody seemed to argue that point.

**Deputy C.J. Scott Warren of St. Saviour:**

I wanted to just ask a general question. I do not know if you were -- you said near the beginning of when you were speaking to us that there were 100 other products. I just really wanted to ask you, other products, do you know whether they are of similar composition to your enzyme?

**Mr. P. Chapman:**

No, there are no enzyme products on the market apart from Soltron. They are all various chemicals or add-ons, magnets, various things that you can put in the funnels of ships to reduce the NOx collectors, things. Various things that -- detergents go into fuel. No enzyme products out there at all. There are only 2 companies that use enzyme products and the enzymes are manufactured by the same company, that is Soltron.

**Deputy R.C. Duhamel:**

All right, any further questions?

**Deputy P.V.F. Le Claire:**

I just think it would help, perhaps, if some clarity could be brought to these tables because, for example, the particles - and I know we are going to write to you but just in favour of the argument for you - particles read 0.05 0.05 and an increase of 11.11 per cent so I cannot marry up those figures so I think there needs to be some clarity brought ...

**Mr. P. Chapman:**

Which draft is that you are looking at?

**Deputy P.V.F. Le Claire:**

I am just saying at the bottom of these particle figures, you have got 3 different results, have you not? I have managed to ascertain that it looks like there are 3 different results here that you have taken over this period. Is that correct?

**Mr. P. Chapman:**

Yes.

**Deputy P.V.F. Le Claire:**

So maybe you could just bring some clarity to these figures and then give us some certainty as to their findings in the future so that we can remove those questions.

**Mr. P. Chapman:**

Yes, Hugo did go over that, I think.

**Professor D. Laxen:**

Not in any detail, no.

**Mr. P. Chapman:**

That was the idea for him to come over, was to discuss technical details.

**Deputy P.V.F. Le Claire:**

Well, perhaps Professor Laxen could discuss it with him and just bring some clarity to the tables that have been presented for the layman and members of the public.

**Mr. P. Chapman:**

Yes,. I am happy with that because there obviously is a ... somewhere there is a misunderstanding there.

**Deputy R.C. Duhamel:**

Right, well, I have no further questions. Does anybody else? In that case, I would like to thank you for your presentation and we will be in touch.

**Mr. P. Chapman:**

Okay.

**Deputy R.C. Duhamel:**

Thank you very much.

**Deputy P.V.F. Le Claire:**

Did you need to have something to say now confidentially or anything that you ... Chairman, is there anything that you wanted to know confidentially that was ...

**Deputy R.C. Duhamel:**

No, I think I am happy, I think we will correspond.

**Mr. P. Chapman:**

I would have liked to have touched on one -- on the people we are ...

**Deputy R.C. Duhamel:**

Would you?

**Mr. P. Chapman:**

I would like to off the record.

**Deputy R.C. Duhamel:**

Okay, in that case, if we can ask the public to leave, thank you.