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Chair

Mr. Anthony Housefather

Standing Committee on Justice and Human Rights

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● (1105)

[*English*]

The Chair (Mr. Anthony Housefather (Mount Royal, Lib.)): I call the meeting to order.

Good morning, ladies and gentlemen. Welcome to this meeting of the Standing Committee on Justice and Human Rights, as we continue our study of Bill C-247, an act to amend the Criminal Code on passive detection devices.

For the benefit of the members of the committee, we're going to be hearing from Mr. Mayers first, and then we're going to go in camera after that.

I'm very pleased to welcome Daryl Mayers, who is the chair of the alcohol test committee of the Canadian Society of Forensic Science. We had a a lot of discussion at our meeting on Tuesday about the reliability of passive detection devices, and we're very interested to hear from an expert as to how these devices work and how accurate they are.

Mr. Mayers, welcome to our committee. It's a pleasure to have you.

Dr. Daryl Mayers (Chair, Alcohol Test Committee, Canadian Society of Forensic Science): Thank you.

Good morning, everyone. Thank you for having me.

The alcohol test committee, or the ATC, of the Canadian Society of Forensic Science has provided scientific advice to the Minister of Justice about detection and quantification of blood alcohol concentrations for the past 50 years. We are a group of dedicated volunteer scientists with expertise in breath and blood alcohol testing who are committed to maintaining the consistently high standard in alcohol testing that has become the accepted norm in Canada.

The ATC evaluates equipment for breath alcohol testing; makes recommendations regarding the management of breath testing programs, including the training of personnel and the maintenance of equipment; and makes recommendations on the procedures to be followed in the use of this equipment to ensure that the results are both accurate and reliable.

It's clear that one goal of Bill C-247 is to increase the ability of police officers to detect alcohol-impaired drivers with the use of approved—and I emphasize “approved”—passive detection devices, which are designed to detect alcohol in the vicinity of the driver. Passive alcohol sensors have been available for 30 or more years and come in a wide variety of forms from many manufacturers. This is demonstrable for anyone who wants to try it by using nothing more sophisticated than Google.

However, Bill C-247 speaks of—and I'm emphasizing—“approved passive detection devices”, and with that characterization places them into the same arena as approved instruments, approved screening devices, and approved blood containers.

Approval of a device, as you all know, is at the discretion of the Minister of Justice. However, the minister relies on the alcohol test committee to test any new products against the ATC's published standards to determine if they are appropriate to be used in Canadian alcohol testing. Therefore, if enacted, Bill C-247 would require the ATC to develop standards and procedures for the evaluations. We would have to perform evaluations on the new equipment proposed as passive devices, and we would have to develop operational recommendations and/or best practices relating to the maintenance and use of these devices.

The scientific aspect of the approval process of such devices is going to be extremely costly in both time and resources. As I indicated earlier, the ATC is a committee staffed by dedicated volunteers. While we have the support of our home laboratories, we also have our primary duties to our employers, which as busy forensic scientists can be onerous. All of the activities of our committee, including evaluations, have traditionally relied on our membership from each of our regional laboratories and have been largely done on our own personal time. The potential influx of numerous new devices seeking approval as passive detection devices would stretch our current resources past the breaking point.

Moreover, even the existing approved devices that have the capability for passive testing—which I have brought with me today and will be happy to demonstrate for those interested—would require further evaluation to demonstrate their compliance with the newly developed alcohol test committee standards. While these obstacles are not insurmountable, they can only be overcome with time and/or additional resources.

It's clear that these devices test for the presence of alcohol. They are not a flashlight or a tape recorder, and any suggestion that the contemplated devices need not be approved is contrary to our shared goal of ensuring that only reliable and accurate products be utilized as part of an alcohol testing system in Canada.

There is little doubt that these devices can be effective if operated carefully and according to proper procedure, but since they are designed to detect alcohol in the environment proximal to the driver, there is no direct correlation with the blood alcohol concentration in that driver. This is very different from approved screening devices and approved instruments, and allows for a much greater influence from the environment if they are not properly utilized. For example, these devices have been noted to be less reliable if windy conditions exist if the officer deploying the device does not take the appropriate precautions. The above scenario could result in a false negative and allows the potential for an impaired individual to avoid detection.

With these devices, there will also be the constant spectre, real or hypothetical, of false positives arising from the contents of the car rather than the driver. Any suggestion of a false positive has enormous implications to any litigation arising from the use of a device.

There are also some further considerations. For example, once the devices have been approved by the alcohol test committee, all of our individual forensic laboratories will need time to develop region-specific recommendations for calibration, training, and operational procedures for the device picked in their jurisdiction, and all our police services will need to act upon these recommendations.

Furthermore, it's the experience of the alcohol test committee that even the introduction of a newly approved instrument can be challenging in and for our courts. The introduction of a novel type of testing with completely unfamiliar devices will undoubtedly be the subject of lengthy litigation involving scientific staff from all the forensic laboratories across the country.

In light of the concerns raised above, the alcohol test committee feels that while approved passive detection devices could offer some advantage in the detection of alcohol-impaired driving, the overall cost of implementation and maintenance of this strategy outweighs the benefits. Practically, with the current resources available, the first use of approved passive detection devices in the field could take years following the enactment of the legislation.

As an alternative, the alcohol test committee recognizes that another bill, Bill C-226, which is currently before the Standing Committee on Public Safety and National Security, includes a provision for what is known as random breath testing of drivers for the presence of alcohol. This measure uses technology that is currently employed by police services, is supported by the regional laboratories, and has met the standards of the alcohol test committee. Random breath testing has been demonstrated to effectively diminish alcohol-impaired driving in jurisdictions where it has been implemented. This measure could be implemented as soon as the bill is enacted, with no lag time or need for additional resources.

In summary, it's the consensus of the alcohol test committee that random breath testing can achieve the goal of decreasing alcohol-impaired driving without the substantial costs involved with the implementation of a new system using approved passive detection. Finally, it goes without saying that if this bill becomes law, notwithstanding the submission from my committee, we will support its implementation to the fullest of our abilities.

Thank you very much. I'm happy to take any questions that the committee has for me.

● (1110)

The Chair: Thank you very much, Mr. Mayers. We really appreciate that submission. It was elucidating, certainly to me, and I'm sure to members of the committee.

Now what we'll do—I'm sure you're used to this—is go back and forth with different questioners.

We're going to start with Mr. Nicholson.

Hon. Rob Nicholson (Niagara Falls, CPC): Thank you very much, Mr. Mayers, and thank you for all the work you do.

I appreciate, as I'm sure everyone does, your final comment that if this measure were approved, you would do your best to assist with the implementation of it.

You said that if in fact it does get approved, it would be extremely costly in terms of time and effort on your part. Right now, any budget you have would not adequately cover what would inevitably be involved. Is that a fair assessment?

Dr. Daryl Mayers: It is a fair assessment.

I make that submission based on my knowledge of how long it takes us to do our approvals now on approved screening devices and approved instruments. Through no fault of the volunteers on my committee, it takes quite a long time to get those done. We do them by two independent laboratories, so we must have two full independent validations done prior to this committee sitting down to assess it.

I know, having been on this committee for several years and having been vice-chair and chair, that despite our best efforts, speeding that process up it is difficult while working full time and maintaining our own workloads.

Our concern is that there are numerous devices out there that purport to be passive alcohol detectors. To use an analogy, we need to winnow the wheat from the chaff there. Some of the materials will not be acceptable in Canada. However, until we have a sense of how many things are coming in the door, we remain a little apprehensive about the time it would take.

Now, since I'm in front of a government body, this is where I make my pitch. Given resources, we could hire staff and we could probably do evaluations more quickly. That has not been the traditional way that we have done it in the past, but we do have provisions in the society for that to happen. We just can't do it with our current funding.

● (1115)

Hon. Rob Nicholson: Okay. I can appreciate that.

You said there are many manufacturers of these passive alcohol detection devices.

Are you in a position to know at this point what works and what doesn't work, or what has been tested? Do you know, for instance, of any other jurisdictions that have already done an analysis? We're not the only jurisdiction, obviously, concerned about impaired driving; have other jurisdictions had a look at those who produce these devices and come up with a number of them that are more reliable than others? We presumably don't want to start just from scratch.

Dr. Daryl Mayers: I am not aware of the testing that has been done in other jurisdictions. This is a brand new area for my committee. We would certainly, as one our avenues, look into that.

I can tell you that the two approved screening devices I have with me are the ones most commonly utilized throughout Canada—and I say that with knowledge from my committee—and both are capable of doing passive testing as well as approved screening. The difficulty is that I have no magic wand to wave and suddenly approve them as passive testers, even though they have that capability. I know they have that capability, but we have no standards to test them against. We have never tested them for that utility, and at least one of them is no longer in production now. Whether it would be useful to do that at this point is somewhat questionable.

Hon. Rob Nicholson: That's not too encouraging.

You said you have two of them. You haven't been instructed to come up with recommendations or approval one way or the other, but nonetheless you do have two. You must have some confidence, in terms of what you have heard, that these detection devices work, even though at this point in time you haven't been formally asked to investigate and approve them. Is that fair?

Dr. Daryl Mayers: It's fair to say that I'm confident they work. I've tried them myself. I know that they will detect alcohol. However, developing standards for instruments or devices that test environment is very different from developing a standard for testing blood alcohol by way of a direct analysis of a person's breath.

I am currently involved in a committee that is setting standards for alcohol interlock devices, and the number of considerations when you are looking at something outside of a laboratory and not testing an individual directly makes for a much greater challenge. For example, I dare say that everyone on this committee drives a different car. The dissemination of alcohol molecules through different sizes of cars will be different. Most of these devices actually are.... They suggest that they can be used ambiently, but there's a greater suggestion that they actually are placed directly in front of the individual to get a breath sample, albeit without a mouthpiece and without breathing directly into them.

I know there have been suggestions that they be held six inches in front. With regard to one of the ones I have with me, their suggestion is two inches. That's a lot closer than six inches. It depends on the manufacturer. They all make it very clear that the further away you are, the less likely you are to get a result that is reliable.

● (1120)

Hon. Rob Nicholson: What do the different types of cars have to do with it? Is it that the larger the inside of the car, the less reliable the result will be?

Dr. Daryl Mayers: It may have some impact.

I'm thinking about the potential for.... I spend a lot of my time in court, and I'm thinking about the potential for suggestion of external environmental influences. Currently with an approved screening device, the officer has a look in the car to make sure there are no open alcohol bottles lying around.

Hon. Rob Nicholson: That's because it could affect the test.

Dr. Daryl Mayers: That could affect the approved screening device test if there had been recent consumption.

With this type of detection, I don't think it's much of a leap to suggest that the officers will now be asked if they investigated any spills in the car, if there was anything.... Was there a minty fresh smell in the car? There are various things—

Hon. Rob Nicholson: That's what the defence lawyers will ask.

Dr. Daryl Mayers: Yes.

I speak from my experience of over 20 years in criminal trials. I'm not suggesting that those things are real possibilities; I'm suggesting that it will have to be carefully assessed so that we can be ready for challenges of that nature. Part of that may be deciding what sort of volume a passive detector needs to be effective in. That is a personal observation, and I certainly don't have my committee's years of experience—

Hon. Rob Nicholson: In your opinion, this is going to result in lengthy litigation, and your experience over the years confirms that.

Let me just ask you one more thing. I know I'll probably run out of time.

The Chair: You're at about nine minutes.

Hon. Rob Nicholson: Let's just say that—

The Chair: You're at about nine minutes, Rob.

Hon. Rob Nicholson: Oh, I'll just throw this out, then.

The Chair: It was so compelling that I was letting it go on.

Go ahead with your last question.

Hon. Rob Nicholson: Murray Rankin has been promoted in his party, so just take it off his time.

If an individual takes mouthwash here, would this show up as a positive, if it was a mouthwash that contains alcohol? Some of them do. Would a passive detection device show that as a positive, do you think?

Dr. Daryl Mayers: I think it's possible.

The mouthwash I tested yesterday in my lab certainly did. I didn't swish it around my mouth and spit it out and try it that way, but I waved the passive detector over the top of it.

Hon. Rob Nicholson: After you had some mouthwash?

Dr. Daryl Mayers: Well, as I say, at 6 o'clock in the morning, I wasn't using mouthwash in the lab, but I did open the bottle we have in our breath testing room—we use it for testing our instruments and demonstrating to police officers—and both of the devices I had reacted to it. It was in close proximity, but it wasn't someone who was blowing towards it either.

Hon. Rob Nicholson: Fair enough.

The Chair: I'm very glad to hear that you keep mouthwash available in the lab, though.

We're going to go to Mr. Bittle.

Mr. Chris Bittle (St. Catharines, Lib.): Thank you so much, Mr. Chair.

Proposed subsection 254(1.2) of this bill reads:

> If an approved passive detection device indicates the presence of alcohol in a sample collected by a peace officer, it establishes reasonable grounds to suspect that the person has alcohol in their body.

I know you're not here to provide legal opinion, but is that a presumption that's defensible, in your opinion?

Dr. Daryl Mayers: Certainly not as primary evidence in court. I don't think you can correlate passive detection with blood alcohol in a person's body. It certainly gives you further evidence that there is alcohol in the vicinity, and the likelihood is that it is coming from his body. However, as I commented to the other member, the other possibilities of where that is coming from would be raised. That's something that training can assist with, but it is something we should be aware of.

● (1125)

Mr. Chris Bittle: We've heard some testimony in regard to this being just an extension of the officer's nose. Would you like to comment on that?

I expect that to establish a presumption, an officer's nose would create false positives as well. I wonder if you could comment on that.

Dr. Daryl Mayers: I don't think there is any doubt that officers can and do make mistakes.

I think false negatives are certainly a possibility. False positives are also a possibility, because of certain odours that may be mistaken for alcohol.

I am not called to the bar, nor am I a lawyer of any sort—

Mr. Chris Bittle: That's a good thing.

Dr. Daryl Mayers: —but certainly the odour is not the only thing that is used in forming reasonable suspicion to demand a screening device. I've heard enough trials to know that. This wouldn't be much different from that, but it adds another layer.

I should comment at this point that something I've been mulling over is that if the officer smells what they think is alcohol and they pull out their passive detection device, and, owing to circumstances beyond their control, it doesn't register alcohol, I think it offers a very interesting litigable point as to which side should be believed.

Mr. Chris Bittle: You mentioned that it would possibly take years to approve and test. Is there any way you could narrow that down? Are we looking at five years? I appreciate that this may not be a fair question, but is there any way that you could expand on that?

Dr. Daryl Mayers: I have never been shy in writing my budgets to ask for more money. With our current staffing, we're nine members. We should be at 10; one member has finished their term. With our current staffing level and the volunteer nature of our activities, that's why I'm opining years.

If we had dedicated staff, we could cut that back. In order to do that, there are hurdles to get over, which are where the dedicated staff reside. We don't have a laboratory that belongs to us. We work out of our own laboratories. It's possible that we'd have to have some sort of agreement from our laboratories if we hired a technologist, for example. To do these evaluations, some resources from the laboratory would be utilized—maybe not expendables, but the very fact that the person is there taking up space is a resource.

These are things that we would consider, but given sufficient funding, I think that could shorten the procedure significantly.

Mr. Chris Bittle: Have I used up my nine minutes?

The Chair: You have another minute and a half.

Mr. Chris Bittle: To finish up and just to be clear, there really is no way that you can comment on the accuracy of these devices at this particular time.

Dr. Daryl Mayers: Not without studying them and testing them. Scientists are driven with data, and I do not have the data to assist this committee at this time.

Mr. Chris Bittle: Okay. Thank you so much.

The Chair: Thank you very much, Mr. Bittle.

I would like to, I think on behalf of all of us, congratulate Mr. Rankin on his new appointment as NDP House leader.

This is your time, sir.

Mr. Murray Rankin (Victoria, NDP): That's very kind of you. I'll miss this committee a great deal, seriously, and I appreciate all that you've done as chair.

I want to build on Mr. Bittle's line of questioning.

You talked in your testimony about windy conditions and how false negatives could be generated as a result of the wind taking, presumably, the alcohol particles away. In 1993 there was an article in the *American Journal of Public Health* that not only talked about windy conditions but also said that when temperatures were below eight degrees, or in excessively damp weather, there would also be problems.

Now obviously you need to look at the studies and do your own analysis, but have you had a chance to take into account the temperature issue and the dampness issue?

Dr. Daryl Mayers: Well, certainly I can speak somewhat to the temperature issue. That paper is American, so I think they said it was 48 degrees, which we all know to be Fahrenheit.

These devices—at least the ones I'm familiar with, and the ones I would recommend—utilize fuel cell technology as their mechanism for detecting alcohol, and fuel cells can be affected by cold weather. What will happen if they're cold is that you will get an underestimation of the actual result. That means that it will have a false negative, potentially. That's true of the approved screening devices as well, which is why we instruct our officers when they're doing snowmobile patrol, for example, to keep it inside their parka.

I don't know the specifics about some of the devices that are out there, or how they're protected against the cold, but it could cause a false negative. The alcohol sensor, as a fuel cell, will not cause a false positive, which is something that is very encouraging—to a forensic scientist, anyway—by having it cold, nor will heat cause false positives.

With regard to damp conditions, once again I think this comes back to my earlier testimony that the environmental conditions are far more important with these devices than they are with anything we've ever tested before. We'd have to turn our minds to that very, very carefully. The study you've alluded to with the windy conditions was done by NHTSA in the United States. They produced a breeze in the lab that I think was characterized at 0.5 miles per hour. We're Canadians. That's nothing up here.

● (1130)

Mr. Murray Rankin: Not only is that nothing for wind, but think of the damp conditions on the west coast, for example, or the east coast, and about the extreme cold that we experience in the Prairies. It makes me wonder, if there are all these false negatives that could occur, whether the game is worth the candle, if you know what I mean.

Dr. Daryl Mayers: All I can say is that until the alcohol task committee has had time to do greater study of the ones that are proposed, we can't give you specific data on that question, although we certainly would be able to look at it.

Mr. Murray Rankin: There was something else you said this morning that caused me concern.

We talked earlier about the best use. We've heard testimony that the best use is to place the device six inches or less from the driver's mouth. You said today that two inches would be more appropriate to be useful.

If it's two inches, that would appear to be very invasive vis-à-vis the driver of a car. If you're that close, say two inches away.... The police officer stops you at the side of the road, and in order to be effective, the officer has to put this device almost inside the car. That much proximity to the driver's mouth sounds like it could be very invasive, in practical terms.

Dr. Daryl Mayers: Yes.

For the purpose of the record, I'm holding up a device. This happens to be the Alco-Sensor FST. This is the device that the manufacturers suggest.... The passive detection area is on the top. There are three different types of passive detection with this device that they outline in their technical manual. They are the manufacturers who have suggested that when you're testing an individual, there should be a cup involved on top that you place in here, instead of a mouthpiece, that will attempt to capture more of the breath.

Mr. Murray Rankin: That doesn't sound very passive to me. It sounds very active, if you think of it in those terms, with a cup placed two inches away. It doesn't sound passive at all.

Dr. Daryl Mayers: You can also use it the other way. You can use it in a passive ambient way and just stick it into the environment, but they suggest otherwise to get the most accurate determination correlating with the actual subject.

I'm using the manufacturer's information here. This is not data that we've developed. Scientists are by nature skeptics. We like to have our own data. We test these things because we don't believe anybody until we check it for ourselves.

This manufacturer says two inches. I realize that the original data that came from NHTSA back in the late 1980s suggested six inches. That is a different device entirely. It maybe just illustrates for this committee that these devices are very different from one another and it depends on the manufacturer and which device we're testing as to how we draw our conclusions.

● (1135)

Mr. Murray Rankin: Thank you.

The Chair: Thank you very much, Mr. Rankin.

We're now going to go to Ms. Khalid, who is going to be sharing her time with Mr. Hussen.

Ms. Iqra Khalid (Mississauga—Erin Mills, Lib.): Thank you very much, Mr. Chair.

Thank you, Mr. Mayers, for coming in and giving your testimony.

I want to change track a little and ask whether a passive device can test for other substances of impairment, such as marijuana.

Dr. Daryl Mayers: At the risk of stepping on the toes of my colleagues from the drugs and driving committee, and since the chair doesn't sit that far from me in my lab and I'm very afraid of her, the answer is no.

We don't have any viable technologies available of this nature. My colleagues on drugs and driving are before committees now discussing saliva testing for the presence of other types of drugs that can cause impairment, but breath testing is generally confined to drugs that are volatile and will be on the breath—in other words, alcohol.

Ms. Iqra Khalid: That's very interesting.

Do you think that such a product could be developed by forensic scientists that could be used in a very passive way to detect impairment from substances other than alcohol?

Dr. Daryl Mayers: The engineering challenges would be huge. The wide variety of chemistries and differences in drugs that can cause impairment make it almost impossible to have anything that will detect passively those types of drugs.

What you would have to have is about a million-dollar mass spectrometer at the side of the road, taking head space from the car. If you think what I'm talking about is costly, you have no idea what that would cost the police services.

Ms. Iqra Khalid: Thank you.

I don't have any more questions.

The Chair: Mr. Hussen is next.

Mr. Ahmed Hussen (York South—Weston, Lib.): Mr. Chair. I cede my time to the sponsor of the bill, Mr. Gagan Sikand.

The Chair: Okay. Mr. Sikand, please go ahead.

Mr. Gagan Sikand (Mississauga—Streetsville, Lib.): Thank you for being here today.

My first question is that seeing as the passives will be used merely to detect the presence of alcohol—

The Chair: I'm sorry, but I have to ask you to speak into the microphone. I can't hear a word you're saying.

Mr. Gagan Sikand: I'm sorry.

Seeing as these passives will be used to detect the presence of alcohol and not necessarily ascertain the blood alcohol level, would you agree that the two devices could detect alcohol in a passive setting?

Dr. Daryl Mayers: I absolutely agree that it's possible for devices to detect passive alcohol.

Mr. Gagan Sikand: Thank you.

Seeing as you agreed that officers could make mistakes using their senses, would you agree that this would be a useful tool to aid them?

Dr. Daryl Mayers: Yes, it can be.

As I indicated earlier in my testimony, it is a useful tool as long as how they're doing it is properly controlled. There are a lot of variables involved, and I think they have to be very on point with the way they're performing this type of analysis for it to meet the muster of the courts.

Mr. Gagan Sikand: Okay, but do you agree that it would be a useful tool for them to have?

Dr. Daryl Mayers: As I said in my testimony, there's no doubt that passive detection has been used and that it can be useful in detecting alcohol-impaired drivers.

Mr. Gagan Sikand: Thank you.

Seeing as other jurisdictions have given the passives a green light, if you will, do you think it would be worth studying them here in Canada?

Dr. Daryl Mayers: Asking a scientist if something is worth studying is sort of like giving candy to a baby.

Mr. Gagan Sikand: Okay, that's a yes.

Dr. Daryl Mayers: We always want to study things, but whether we have the time and resources to do it is where we have issues. Certainly we have very curious minds on my committee.

Mr. Gagan Sikand: So it's worthwhile.

Dr. Daryl Mayers: Well, if we have the time.

We currently have two approved instruments and one approved screening device still on our books that we're doing work on. As I say, it becomes increasingly difficult, given our schedules.

Mr. Gagan Sikand: This is just from me. Would you say our lab standards or processes are comparable to those of the United States or Australia—our systems and the way you do things?

Dr. Daryl Mayers: I've always considered the Canadian system to be superior to any in the world, but I may be somewhat biased. My predecessors on this committee certainly have led the way through the years with developing a program in Canada that was seen as being world leading.

● (1140)

Mr. Gagan Sikand: This is my final question.

The one manufacturer you mentioned stated that passive works best at a range of two inches. As technology progresses, would you say it's possible that a manufacturer could come out with a passive that tests best at 20 inches?

Dr. Daryl Mayers: I would be surprised at that.

Mr. Gagan Sikand: Let me reword that—not “best at”, but is still highly accurate at 10 inches or 20 inches.

Dr. Daryl Mayers: Given the ability for alcohol molecules, which are extremely small, to disseminate into areas where there is no alcohol, the further you go back, the greater the chance of the alcohol dissipating. It would be surprising to me that you could get an accurate result further back than even the six inches suggested.

Mr. Gagan Sikand: It's not necessarily the concentration but the presence at that distance. Does it vary that much between 2 and 10 inches?

Dr. Daryl Mayers: It would depend on the volume it's within.

Alcohol will distribute or diffuse into the space where there's no.... It goes from an area of high concentration to an area of low concentration. It diffuses very rapidly. The larger the area for diffusion, the greater the chance of the alcohol falling below a detectable level, for any device.

I seriously doubt that anyone would want to have a device that could be used two feet away from someone. There's just far too much that can happen in that two feet.

Mr. Gagan Sikand: Thank you.

The Chair: Thank you very much, Mr. Sikand.

We're going to the second round now.

Go ahead, Mr. Fraser.

Mr. Colin Fraser (West Nova, Lib.): Thank you very much, Mr. Chair.

Thank you for being here, Mr. Mayers. I appreciate your contributions.

How much time does it take for the passive detection on the device that you showed us a moment ago to give a reading?

Dr. Daryl Mayers: Almost immediately, if it's a strong sample.

Let me back up. The higher the concentration of alcohol, the longer it takes for the fuel cell to actually process all of the alcohol.

I don't propose to do what I'm going to do later tonight and lecture in the way that I'll be lecturing my fourth-year students. However, the process is that alcohol is collected and then broken down into component parts that produce electrons. The electrons are then changed to a voltage that is proportional to the amount of alcohol there. The larger the amount of alcohol, the longer it takes to do that, so a very high concentration takes a little bit longer to process than a lower concentration.

All that being said, it's a very rapid process.

Mr. Colin Fraser: You said you had two different machines. We saw one. Are there two?

Dr. Daryl Mayers: I have two. That's correct.

Mr. Colin Fraser: Can we see the other one? They both have passive detection ability, correct?

Dr. Daryl Mayers: Yes, they do. There are different ways to access the passive function, but they both can be used passively.

Mr. Colin Fraser: Do they work similarly with regard to the technology of detecting alcohol, and the quickness of detection?

Dr. Daryl Mayers: They both use fuel cell technology. Neither one of them is going to allow me to have the proprietary formula for their fuel cells, but they do both work on a fuel cell technology. They are both rapid in their response.

Mr. Colin Fraser: Is it your understanding that the device that's being talked about for the purposes of this bill would be similar, or do you not know?

Dr. Daryl Mayers: I hesitate to call it “a” device because there are multiple devices.

I would support devices that use fuel cell technology. There are devices out there that use semiconductor technology, and the semiconductor technology tends to be a lot less.... It used to be, anyway; maybe it's improved. In years past, semiconductor technology was subject to fluctuations in accuracy because of the calibration of these devices, and a lack of keeping them calibrated.

These devices that we're familiar with, if used properly, will give you accurate and reliable results—at least, inasmuch as I know—as approved screening devices. I would expect it to be the same with the passive detection, but we have yet to test that.

● (1145)

Mr. Colin Fraser: Are the passive functions on devices like those you have there—those tools—not utilized then in Canada right now, or do they just use those machines as ASDs, alcohol screening devices?

Dr. Daryl Mayers: These are just currently used, to the best of my knowledge, as ASDs.

In order to get this device, the one from Dräger Canada, into a passive mode, you have to get into the administrator's second-level menu, which is password protected. With the greatest respect to all of our road officers, they can't get access to that, because there's a lot of stuff that can go wrong if they get access to that second menu.

That said, once programmed, it can be used passively or as an approved screening device. With this device, you access the passive function through a menu. The officers can access it, turn it into a passive device, use it as a passive device, and then switch it at roadside themselves to use as an approved screening device.

Mr. Colin Fraser: Is the passive function just pass/fail?

Dr. Daryl Mayers: Yes, it will give you.... There are no numbers involved here. One indicates alcohol, and one indicates alcohol not detected. I'd have to actually look up the screen messages, but it is a binary yes-or-no answer.

Mr. Colin Fraser: I suppose it could be calibrated, but there would be some tolerance for not picking up any remote possibility of having alcohol in the system. For example, if it's many hours later and there was a very minor amount, or if it was from some type of food that had a minor amount of alcohol, it would have tolerance to that.

Dr. Daryl Mayers: Yes. They have tolerances built in as approved screening devices.

Mr. Colin Fraser: Right.

Dr. Daryl Mayers: Most approved screening devices.... The alcohol test committee suggests that anything less than 10 milligrams of alcohol in 100 millilitres of blood should be viewed as a “not detected” result.

Mr. Colin Fraser: That would be .01 rather than .08.

Dr. Daryl Mayers: Yes, although we use milligrams of alcohol in 100 millilitres of blood.

I realize that there is great confusion because of the media. Canada hasn't used those units since the inception of the “per se” laws. I'm not being critical; I'm just pointing out to the committee to be careful about looking at units, because sometimes the clarity of the data depends on the units.

If you look at the Dräger data, for instance, they report their units in milligrams per litre on their technical data, but it's in milligrams per litre in breath, not in blood. There's a huge difference between the two.

Mr. Colin Fraser: I have one other quick follow-up—or a different question, actually.

This is testing ambient air. The closer it is, the more likely it is to be picking up the breath from the individual you're trying to get information from. If that person has chewing gum or a mint or something that tries to mask the odour, does that have an impact on its ability to detect alcohol in their breath?

Dr. Daryl Mayers: It's a qualified “it may”.

When I train officers with approved screening devices, or more likely with approved instruments—and I've trained probably thousands by now—one of our first training things is that if someone has something in their mouth, have them get rid of it and don't take a test for 15 minutes, because you have no idea what the impact of that unknown substance will have on the testing.

It's yet another area with passive devices that we have to investigate.

Mr. Colin Fraser: If you're at checkpoints, checking people as they go by and trying to get them through quickly, if someone is chewing gum, then you potentially could have a false negative.

Dr. Daryl Mayers: I don't think I can answer that with any definitiveness. It may be, but chewing gum is an interesting concept because it causes increased salivation, which diminishes mouth alcohol.

Although it's a litigable point in court, generally it does not have an impact. We still tell the officers to err on the side of caution and not to do the test if somebody has something in their mouth.

Mr. Colin Fraser: All right. Thank you.

The Chair: Thank you very much, Mr. Fraser.

Mr. Cooper is next.

● (1150)

Mr. Michael Cooper (St. Albert—Edmonton, CPC): Thank you, Mr. Mayers.

I want to talk a little about false negatives, and in particular some of the issues regarding weather conditions, etc. I think you cited temperature as one factor that could increase a false negative. You also talked about windy conditions.

Are there any other external conditions that would likely result in false negatives?

Dr. Daryl Mayers: As has been pointed out, there's been a suggestion of weather conditions. Dampness could have an impact.

Mr. Michael Cooper: Right.

Dr. Daryl Mayers: I don't know of all of the conditions that could have an impact, because this is not something that the alcohol test committee has ever been asked to study up until this point. Until we have time to study it and look more closely at all of the potential variables, we can't tell this committee what may or may not be a problem.

It's always going to be more difficult if you introduce environment into testing. If I have a person giving a sample directly into an approved screening device or directly into an approved instrument, I am not worried about the environment that person is standing in. I have a direct analysis of that individual's blood alcohol. Environmental factors are something else we just have to consider.

Mr. Michael Cooper: If someone blows directly into a passive screening device, obviously that would eliminate the external environmental factors, but you would agree that there could be false positives if there was mouthwash in the person's mouth, for example, or if they had consumed it or used it in their mouth recently. Other false positives could arise, even if you did apply it right up to the mouth.

Dr. Daryl Mayers: Yes. In fact, the officers are told that they should do a self-test to show that the screening device is in proper working order. We've recognized that they shouldn't be doing that self-test with these devices while washing their windscreens, because the methanol in windshield wiper fluid can cause a positive result.

It's a training issue. Nothing is wrong with these devices. I'm not suggesting that the devices are wrong. It's a training issue that you have to accommodate when you are setting out the procedures for doing these tests.

We can all imagine using our windshield wiper fluid quite frequently in Canada. If the individual is being tested while that's happening and the officer doesn't take the proper precautions, if I were a consultant for defence counsel, l would certainly be inquiring about that.

Mr. Michael Cooper: You would concede that if proper precautions were not taken, then, that you could get false negatives or false positives from the external environment, as the officer, for example, approached the vehicle. However, you would agree that's also the case with breath screening devices that are currently used by law enforcement.

It really is a training issue, is it not?

Dr. Daryl Mayers: It's largely a training issue, although approved screening devices are not administered in Canada, at least to my knowledge, in an individual's own vehicle. The individual is escorted back to the police vehicle. They are put in safe conditions, away from traffic, in the back of the vehicle, and they are tested in that environment, which the police have control over. The contemplated use of the ambient detection would be in the environment of that individual's car, which there's less control over.

Mr. Michael Cooper: You have two passive detection devices. I think you alluded to one that is best applied within two inches. Is that the case for the other passive detection device as well?

Dr. Daryl Mayers: I would like to answer that, but since my German isn't all that good and Dräger writes most of their stuff in German, I haven't been able to find out. Their recommendation is very short: “Push the OK button and do a passive test.”

Probably because I have more technical data from them, I was able to discern the other manufacturer's recommendations. Their recommendation was two inches for the best result. They're not suggesting you can't do it further back, but if you want the best result, you install the collection cup on the top and you stick it within two inches of the individual's mouth.

● (1155)

Mr. Michael Cooper: That is for that one specific device.

Dr. Daryl Mayers: Yes, it's for that one specific device.

As I say, I don't want the committee to misapprehend me: all these devices will have their own recommendations. That is why, as the alcohol test committee in Canada, we would have to set a standard that all must meet. You can't have all kinds of different devices out there, some meeting one standard and others meeting another. We would have to set a standard that all must meet. Then we can be sure that whatever is out there, whatever is purchased by a police service, because they make their own determinations.... We have no enforcement ability. We can't tell them what to do. We want to make sure that whatever they buy that's on an approved list will be equally useful for the task at hand.

Mr. Michael Cooper: Again, just to clarify, with the Dräger device you have no idea what the recommended distance would be. Do you have any idea about some of the devices that are used in other jurisdictions?

Dr. Daryl Mayers: I do not have specific information about that. The time leading up to my attendance at this committee was reasonably short. I haven't had time to do that. As I say, my professional life sometimes gets in the way of my volunteer activities. I had four trials prior to this meeting this week; I haven't had time to investigate this.

I am connected with Dräger, the manufacturer of the device that I have less information on, and I could make inquiries very easily, but I have not as yet had the time to do that.

The Chair: Thank you very much, Mr. Cooper.

Mr. McKinnon is next.

Mr. Ron McKinnon (Coquitlam—Port Coquitlam, Lib.): Welcome. Thank you for your testimony.

I'm interested in knowing more about how these devices work.

You mentioned that they work on fuel cell technology. That implies to me that they are reacting with oxygen to produce electric current. I'm wondering if the level of oxygen in the current environment might affect that, and whether other factors such as carbon dioxide or carbon monoxide would have an effect.

Dr. Daryl Mayers: The short answer is no. I've never seen that suggested. The actual reaction produces carbon dioxide.

I said I wasn't going to give you my lecture, but I will give you a lecture now.

The alcohol is broken down first into acetic acid, which we all know as vinegar, and in the process of oxidizing it from an alcohol to that acid, it is further broken down to carbon dioxide and water. In that process, it releases electrons. You're absolutely on point. The electrons released during that process are proportional to the amount of alcohol that is present, and that's how these things are calibrated to give you a result.

Environmental conditions could have an impact on that, as could other substances. These substances, as I said, will not react to certain compounds, but they will react to others. Wood alcohol—methanol—can cause a reaction on these devices. When you're getting it directly from an individual, the individual makes it more specific. Those of us who know will not drink wood alcohol because it makes you go blind and will end up killing you, so we know, because of the specificity of the human body, that when you're giving a direct sample into these devices, it's not going to be a methanol result.

Environmentally, at this point I won't be as confident until I do further study and until we set some standards and look at interference a little bit more closely.

Mr. Ron McKinnon: What if I like lots and lots of vinegar on my french fries? Is vinegar going to affect the outcome of this?

Dr. Daryl Mayers: No, it should not.

Mr. Ron McKinnon: On the results of this passive detection device, the intent is to provide grounds for reasonable suspicion of alcohol in the body. It's not intended, as I understand it, to be evidence of impairment or evidence of alcohol in the blood.

I'm wondering if that will produce a substantially lower standard that you would have to meet to evaluate these devices, and whether that would have a significant effect on how long it would take to develop those standards and the procedures involved.

● (1200)

Dr. Daryl Mayers: The answer is that it will probably have a different standard than our others.

Our approved instrument standards are more rigorous than our approved screening device standards because they are fit for a purpose.

Evidentiary-approved instruments are the instruments that can mean an individual will be found guilty or not guilty in a court of law. Alcohol screening devices don't have that impact, and as a result we don't have the same rigour for our standards, nor are they operated with the same rigour. In the case of approved instruments, we demand that they be tested for accuracy and reliability each and every time they are used. In the case of approved screening devices, the alcohol test committee recommends that they be calibrated or checked every month, not every time they're utilized.

With the passive detectors, when my subcommittee for standards meets to develop standards, they may develop standards that are slightly less rigorous than even the ASD, but I won't know until we can look at the whole subject area a little more closely.

Mr. Ron McKinnon: That would, of course, affect the cost-benefit analysis that you proposed. It might not be worthwhile doing this because it could be very expensive.

However, if the standard is substantially lower than even the screening devices, it could be a lot quicker and a lot cheaper to develop those standards.

Dr. Daryl Mayers: It may well be, but we have to take into account things that we don't take into account with screening devices. We've talked about a lot today. We have to take into account things like environmental influences. That could add dimensions to the testing of these devices that do not apply to the approved screening device.

For example, we spoke of the light wind effect. We have never developed a standard for that. We'd have to develop a mechanism for producing that type of test. We'd have to probably.... When you use the word “consultant”, it's synonymous with money. We might have to consult with some engineers to develop the appropriate standards for that type of testing.

I don't know, and I can't assist this committee as to what the standards would look like until we are actually tasked with developing those standards. However, I really do think that it has the potential to be a very costly exercise. I think there are a lot of possible players in the ambient detection market, probably even more than with the approved screening device market.

The Chair: You have one more question, if you want.

Mr. Ron McKinnon: I'm going to ask you for an opinion that may not be a scientific opinion.

You have a lot of experience with law enforcement in developing these things. Do you think that a device of this kind will be helpful in detecting at roadside, for example, whether an officer should go further into applying a screening device for alcohol impairment, or even for the presence of alcohol over the limit?

I realize that's not entirely a fair question, but—

Dr. Daryl Mayers: Well, I'll try to answer as well as I can.

My experience with police officers, and I mean no disrespect, is that if you give officers a tool with all kinds of caveats attached to it—you have to do it this way, that way, make sure the wind isn't blowing, have your back to the wind, make sure you don't have the window open, check the car for spills—and you expect the officer to do in a very rapid time frame, the more likely it is that one step or two steps will be missed, and that is a very serious thing once we come to litigate that case.

Counsel for the defence have an incredibly important role in our society, but they are extraordinarily good at looking at procedures. The minute there's a small deviation, even though it may have no implication whatsoever, they will be litigating that to the end of the earth to try to establish case law. That's fine. It's not a concern for me as a scientist. However, if we can avoid that sort of burden on our courts, I think it would be useful.

That said, it could be useful for individuals who are very conscientious and use it appropriately. I think it could probably add to the arsenal that police have to detect alcohol in people or around people who are driving.

● (1205)

The Chair: Thank you very much.

Mr. Murray Rankin: I have just one additional question.

We've talked about costs generally, but do you have any idea of how much these things cost to acquire them, maintain, and to update them over time? Could you give us some idea of what the expenditure would be?

Dr. Daryl Mayers: The short answer is no, because I don't buy these things. I borrow these from my home lab. The police services buy their own. Often the costing is based on bulk purchase. It's something that could be easily found out.

Mr. Murray Rankin: Fair enough.

The Chair: Thank you very much, Mr. Mayers. Thank you so much for testifying before us today. We found the testimony to be very useful, and we really do appreciate it.

We're going to go in camera.

Thank you again.

[*Proceedings continue in camera*]