ROAD SAFETY COMMITTEE

Inquiry into vehicle safety

Melbourne—19 November 2007

Members

Mr J. Eren
Mr T. Mulder
Mr S. Leane
Mr D. Koch
Mr P. Weller

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Witnesses

Mr S. Humphries, Manager, Product Planning and Engineering Support, Isuzu Australia.

The CHAIR—Thank you very much for being here today. The current members that are here are Terry Mulder, Sean Leane, myself John Eren, the deputy chair David Koch, and Paul Weller. Can I say that all evidence given today is protected by parliamentary privilege as provided by the Constitution Act 1975 and further subject to the provisions of the Parliamentary Committees Act 2003. Having said that, any comments you may make outside of the hearing may not be afforded such privilege. We are recording the evidence and we will provide a proof version of the *Hansard* transcript at the earliest opportunity so you can correct it if need be. If you could state your name and the organisation you belong to and if it is okay we will ask questions as you present.

Mr HUMPHRIES—That is fine.

The CHAIR—Thank you.

Mr HUMPHRIES—My name is Simon Humphries. I am the product planning and engineering support manager of Isuzu Australia Ltd. I have a presentation and I will go through it as fast or as slow as you want. It is all related to safety features and safety equipment on board our product range.

The CHAIR—Could we have a copy of it.

Mr HUMPHRIES—Yes.

The CHAIR—Thank you.

Mr HUMPHRIES—I have a memory stick so I can put it straight onto this computer if you like. There are a couple of video files on there which we can look at if we have time that are directly relevant to the safety features, otherwise I am happy to take questions, so please interrupt.

Overheads shown.

Mr HUMPHRIES—We have what is called the 2008 model new generation Isuzu. Certainly it is the biggest change in the Isuzu product range in living memory, from my point of view. Equally it has heralded a change—it is all new cabins, as well as all new engines for the new exhaust emission standards that take effect on 1 January. We took the opportunity to change the whole product line. I will give you a very quick history of where we are with Isuzu trucks in Australia, and then the new model range for 2008 and what we have done in the safety environment. We have some recommendations as well.

When we look at the Isuzu N and F series, that is our bread and butter range, we have what is called the Elf in Japan. Since 1959 it has been up around the market—a leading light duty truck—leading up to the current shape which is 1994. As you can see given the span there, the product lifecycle for a commercial vehicle is typically a lot longer than it is for a car. You have heard from Hyundai, the Getz would be refreshed or replaced maybe every four or five years. A commercial vehicle cab would take 10 to 15 years between models. The F series range is our medium duty truck, our first one in 1970, and it went through a slightly faster lifecycle. 1996 is the current cab shape and we have brand new models that have been released for the 2008 model range.

N series is the class leading light duty truck in Australia. We have about 40 per cent market share in the light duty segment. It is really dominated by Japanese products. There are a few European based products, but mainly Japanese. We have been the market leader in this segment for about 20 years. In Japan it has been longer.

Mr KOCH—All imported, Simon?

Mr HUMPHRIES—Fully imported, yes. The light duty market is defined—it depends on which set of figures you refer to but from 3,501 kilograms to around 9,000 kilograms gross vehicle mass. In payload terms that is going from around 1½ tonnes to about 4½ tonnes of payload. Our models cover from 4,490 kilograms to 8,700. The 4,490 is significant because that means you can drive these vehicles on a passenger car licence but it is the smaller end of our range, of course. New models released in late 2007, only a few weeks ago, in fact, have new cabins, new engines and many new safety features. This is a snapshot of some of the models in the range, what they look like.

Then we have the F series—it is called the Forward in Japan but we call it F series. It is class leading again, it is medium duty in definition. We have around 33 per cent of the medium duty segment. Even more so than the light duty segment, the Forward Japanese brands dominate the medium duty segment, around 93 per cent. There is a handful of European brands that make up the other seven per cent. Isuzu is the market leader there as well. Medium duty defined as from around 9,000 kilos to above 16,000 kilograms. That essentially is your larger two axle trucks, so still four wheels essentially. The gross combined mass then becomes important because the main definition between what is a medium duty vehicle and what is a heavy duty vehicle is how much can it tow. Your true heavy duty vehicles are more like your prime movers and so forth, semitrailers and larger.

Mr MULDER—Simon, can I ask a question. In terms of gross combined mass, what you can tow, what you can pull, it has been put to me that that is now dominating totally cabin design and actual vehicle design to the point of compromising safety. Is that an issue?

Mr HUMPHRIES—That is a tough thing to say—and I know where those comments would be coming from, mainly the American-type producers who prefer the conventional-type cab, so you have more metal between the driver and the crash, so to speak. It is fair to say that some regulations do shape the type of vehicle that is purchased. The main difference would be at the heavy end between the conventional type of vehicle like your large Macks and Kenworths, and your cab over engine style vehicle like the Europeans, the Japanese and some of the other American vehicles. But I would not say they are necessarily lacking in safety. It really does depend on the design and the age of the design; a good example being—and I do not want to pick on any one particular brand but there was a particular North American origin vehicle which is very common in the B-double market and the basic design of that cab dates back some 40 or so years and yet some of its competitors would be far more recent designs with the inherent safety. It does not mean to say that 40-year-old design stood still, they have developed it over the years. It is a bit like grandma's axe. It is a little unfair to make that broad comment. If you look at the Europeans in particular and the Japanese in general in that heavy end, not far behind, there are so many safety technologies built into cab over engine vehicles now that would really wipe aside any comment that you could make there.

By the way, we only produce cab over engine style vehicles and that is partly because that is all we produce and it is more about efficiency as well. There was a new design philosophy with the all new N and F series. You see the first part of the acronym [SEE] technology was safety. Isuzu saw from the very start that they had to tackle economy; needed to save drivers money with fuel prices going up as well; had to tackle environment because environment is on the tip of everybody's tongue now, but safety was number one, certainly a significant leap forward.

The use of computer-aided engineering meant that hundreds of virtual models were created in the computer to optimise the strength and the safety, stress testing, and even things like aerodynamic airflow of this cab, long before any prototypes were built. They built these types

of models where they checked out all of the various conditions and that meant when the prototypes were built, of course, they had eliminated a whole stage in the old design process. Another example, cooling airflow, what has that to do with safety, well, when you build a safer cab which may be more enclosed than the previous model, the point is that the new emissions laws have meant that the heat out projection from the engines is greater. The new noise laws means that you have to put some shields around certain areas of the cabin and the engine, so you trap more heat. This type of thing was all developed beforehand.

Also they did produce more physical prototypes than ever before. They provided more space in the cab which is important. The driver environment is often somewhat ignored when it comes to safety. If the driver is more relaxed, if there are lower noise levels, if there is more space, if there is more comfort then they can focus on the task at hand. You can see extra dimensions there. I will go through these quite quickly, but essentially the trucks were easy to get in and out of, the doors open to a full 90 degrees, the basic things like that; occupational health and safety, far less injuries getting in and out of the cab; large handrails and even much larger steps. They are 50 per cent larger in several models cases.

Moving to the cab itself, designed for best in class crashworthiness and there are various features here as you can see; a lot of reinforcement under the floor. Despite the driver being relatively close to any point of impact that you may have, the strength of the cab in itself was very much a focus. These side impact door beams are also longitudinal reinforcement, so for any impact it helps with maintaining the cab integrity. There is a nice little video file here which shows how the driver is protected. That is a full frontal impact obviously.

The CHAIR—The knees look like they are very—

Mr HUMPHRIES—They go close but you will find they are certainly far stronger and safer than any cab of this type before. They do go close but there is also impact absorbing sections on the instrument panel. An important point is that we installed driver's airbags across the range. It is something that has not been available to us on every model in our range before. It is interesting to note that of all the truck suppliers in this country, I am pretty sure we are the first to announce that our entire model range from next year will have at least a driver's airbag as standard. Mercedes-Benz made the same announcement two weeks later, so we beat them to the punch. It is interesting to note that Mercedes-Benz is really up here in terms of car safety and has been for many years and they certainly have a lot of safety features built into their trucks and yet they did not specify a driver's airbag in this country until now.

We also have a passenger airbag on selected models. These tend to be our models where the customers may have outgrown their light commercial vehicle, their one-tonner, and they need to grow up into a truck because they carry too much equipment. They expect a lot more car-like features. We specified the driver and passenger airbag in these types of vehicles. The other thing is there is more likely to be a passenger in this class of vehicle than there is in the larger trucks which tend to be by and large a single operator.

Mr WELLER—Your CFA trucks.

Mr HUMPHRIES—Yes. Also combined with the driver's airbag, the pre-tensioner and load limiting seat belts, while very common in cars these days, still a rarity in commercial vehicles. The position I have taken as the product planning manager—and I have been in this role for over five years, so I have seen this project from the conception through to the launch recently—was that as the market leader we really need to raise the bar in safety, and even if there is no requirement to have these safety features, Australia is a very mature market, very safety-conscious in the car and light commercial world. We really need to lift that in the heavy truck world as well. We wanted to meet or accede our customer requirements to create

competitive advantages and unique selling propositions and that certainly focused on superior safety and other technologies.

Another feature which is certainly related to safety but is quite a rarity in the truck market at this stage is automated manuals. Our full automatics, which is like 90 per cent of cars these days, are still only for niche applications. There are only one or two suppliers, they are very expensive for the type of loads and torque requirements we have, but Isuzu and a few other suppliers now are introducing automated manuals. The transmission itself is still a manual but there are solenoids and computers controlling the shifts and controlling the clutch. It is similar to the automated manuals in a few cars; the VW has one, Porsche has one, Audi—

The CHAIR—Volkswagen. Semi-automatic, they used to call it.

Mr HUMPHRIES—Yes, it is an automated manual with a very fancy clutch arrangement.

Mr WELLER—What do you do when you want to change the gear in an automated manual?

Mr HUMPHRIES—You can have it completely in automatic mode, or if you want to change manually—like the selector here—you move it over to this area for manual mode.

The CHAIR—Like an automatic clutch, like your Fords—

Mr HUMPHRIES—I will show you. I did not show the whole arrangement but the selector, you can use it exactly as you do the automatic selector in your car. There is a reverse position, a neutral position, a drive position. If you want to change gears manually, you knock it over towards the left and tap up, tap down to change gears. Most of the drivers would use it in D for drive and away they go.

The CHAIR—With no clutch?

Mr HUMPHRIES—No clutch pedal, no. Again what that means is that the driver can focus on the road. When he is driving something that is quite large it is not a bad thing. The technology required to get to this point really has not been available until more recently, the last few years, because the shift timing, the shift quality, the computer technology required to really make it work as you might expect, as you do in your car, has not been there. It has been quite a long development process. We have only launched this technology in our larger F series trucks now, because we are now happy with the way it is performing. Isuzu has gone through two or three generations. At the first stage they eliminated the clutch pedal and you still had to change the gear lever, you had to back off the accelerator and then change the gear, and that was okay. The next stage was to eliminate changing the gears at all. The first generation was reasonable, probably worked better in Japan, but this next generation now, we are happy with it and it will work well in this country. It will be commercially acceptable.

From an active safety point of view we have ABS on all of our 2008 models. Not only do we have a driver's airbag, we have ABS. ABS is still a rare feature in trucks, except where it is mandated, such as B-doubles. It is not a mandatory requirement through the Australian Design Rules on any other vehicle. We have again taken the position, it is now available on these new models. There is no reason not to specify it. It does cost money but it is a proven safety feature and especially on a large truck. ABS enables you to steer around an obstacle while you are braking and that means less collisions, less injuries, less deaths, no doubt. They are not fitted to our off-road vehicles, the 4 x 4 models, because of the intricacies of doing that and making it work in off-road conditions. Some of the customers for those models do not like ABS. They prefer to build up a mound of gravel ahead of their vehicles to stop faster,

but that is a matter of time. I believe we will have ABS on our off-road models before too long. It took a little bit longer in the car world for four-wheel drives to be fitted and to have ABS standard. It is a matter of time for trucks.

Electronic brakeforce distribution is another feature. Are you familiar with that? It is common in a lot of car ABS systems as well. It is a way of electronically detecting the different loads on the vehicle and distributing the braking force between the front and rear axles. It is particularly important on a light truck where you might have a disparate load between the front and rear axles. If you have too much braking force on your rear axle when you are unladen, you will never lock up the wheel with the ABS.

Anti-skid regulator or traction control uses the ABS sensors to stop the wheels from spinning. Again when you are driving an unladen vehicle, very important. You do not want to be doing burn-outs. It is possible in these new engines, they do have a lot of power and torque, to spin the wheels if you did not have traction control. We have a hill start aid system. If you have ever done a hill start for your driver's licence in a manual car you know that it takes a bit of doing to juggle the accelerator, the clutch pedal and the handbrake, and the problem becomes more stressful and more difficult as you go up in size of vehicle. This system holds the brakes on without you having to push the brake pedal or the park brake until you release the clutch pedal. You do not fall backwards.

Mr KOCH—Putting non-truckies in trucks.

Mr HUMPHRIES—Exactly. That is part of the driving force for these features. Things like AMT and hill start aid, all these technological aids, because there is a big shortage of drivers. The hairy-chested, blue singlet wearing truck driver, they are dying out. They are all well over 50, 55, 60 and there is a new, young breed and they are not as skilled. They do not think it is necessary to cut your teeth on a crash box and double clutch and all those sort of things. They want the comforts of their normal car. This is the way we are heading.

Another thing which I think is a very important safety feature—and it is only in trucks—our medium duty models, the F series, all feature this high quality driver's seat. For a start it is air suspended. It takes all the bashing and crashing out of the ride. It also has an integrated seat belt. Even though the seat moves up and down quite considerably through quite a degree of travel, there is a compromise for any other type of air suspension seat where the seat belt is fixed to the pillar, and every time you go up and down the seat belt tugs into your shoulder. For that reason there are still a lot of truck drivers out there that do not wear their seat belts even though it is the law.

The CHAIR—Is it illegal for truck drivers not to wear a seat belt now?

Mr HUMPHRIES—Yes, it has been illegal for many years. I do not think it is policed well but that is another story. Certainly by having this integrated seat belt you eliminate that complaint at least. You cannot force the truck driver but it certainly eliminates one area of complaint. In fact the supplier of the seat, to encourage drivers to wear or to make it easy for the fleet operator and/or policemen to see if they are wearing their seat belts, they can provide a fluorescent orange version of the seat belt. You can clearly see whether you have it on or not.

Mr MULDER—Simon, is there a black box technology involved in those trucks that can provide all the information in case of an accident whether they were wearing a seat belt?

Mr HUMPHRIES—There is a 'fit your seat belt' sign on the instrument panel, as there is on a lot of cars these days. The engine [ECU]—the CAN Bus electronics—do collect a lot of information. I am not sure if they collect that information but given that the light

comes on the dash until the seat belt is engaged, chances are it would collect that. It certainly collects quite a lot of computer information and it is a rolling system. It collects several minutes or so—it might even be a couple of hours leading up to an incident. The number of adjustments on this seat is far more than you would expect to see on a car but the average truck driver in this size truck is sitting in a seat for eight to 12 hours a day, so it is his office. The more comfortable he is, the more safe he is likely to be as a driver.

Mr WELLER—It would want to be a robust seat because most would be 120 kilos.

Mr HUMPHRIES—Yes, It does adjust up to 150 kilos. It covers most drivers but not everyone. I think everyone here is covered comfortably. We also have immobilisers built into these trucks now and keyless entry. It gets more of a comfort and convenience feature. The other thing we have included in these vehicles—and this is a local component because in a lot of the Japanese trucks they still have an AM/FM radio—we have developed with a local supplier is this unit which is a CD radio unit. It is not overly high end in terms of features but it does have a large screen and it is quite unusual for trucks. The beauty of this is that the driver can—the optional unit here contains a Bluetooth connection for safe hands-free operation of a phone, becoming very common these days in cars, of course, and the reversing cameras, or at least one camera for reversing and another for whichever area that you want to monitor on the vehicle. Certainly reversing cameras have been proven to reduce injury when reversing up to a dock or in any situation. Vehicles being up to 12½ metres long—rigid trucks I am talking about; it is even more so on prime movers—you certainly cannot hear any yelling from the back of a vehicle. If you can see everything directly behind you, you can reverse the vehicle right up to within a few centimetres.

Mr WELLER—Simon, one of the presentations we had talked about digital tachographs. Have Isuzu installed them in their trucks?

Mr HUMPHRIES—They are available in Japan. Personally I do not think digital tachographs are a particularly good solution to the problem that has been expressed. It is almost old technology nowadays. There are better solutions to tracking vehicle driving hours and so forth.

Mr WELLER—What is the solution that Isuzu would use then if there is a better solution?

Mr HUMPHRIES—Using perhaps—and again we have a satellite navigation option available on this unit—satellite navigation tracking, [GPS] tracking, you can monitor a lot more conditions than you can with a digital tachograph.

Mr KOCH—That is probably from the owner operator's point of view more than the policing side of the argument, law enforcement, whereas the digital is very handy for law enforcement more so than GPS. It is usually dedicated back to the home depot than it is to a police station.

Mr HUMPHRIES—Yes. However, if the enforcement officer suspects that a driver has not been doing the right thing, it would not be hard to obtain that information from the depot directly.

Mr KOCH—Fair enough.

Mr HUMPHRIES—They would legally have to keep those records and so on.

Mr KOCH—I think most haulage companies would have it.

Mr HUMPHRIES—That is right. The vast majority of transport companies and fleets do the right thing.

Mr KOCH—It is the chain of command these days.

Mr HUMPHRIES—Yes.

The CHAIR—Could that also mean that in terms of [ISA] intelligent speed adaptation, if it is linked to satellite, is that a technology that may be in trucks?

Mr HUMPHRIES—Are you talking about speed limiters, changing according to conditions and so forth? It is certainly possible to link that in. Isuzu is quite advanced in research and development of intelligent access programs and intellimatics in Japan but they have not introduced anything here yet. Mirrors: a fairly simple thing and yet if you do not have the right mirrors you cannot see down the side of the vehicle. These mirrors that we develop reduce blind spots. We also have standard heating elements. It is still not a common feature in cars but you really do need to see where you have been, what is behind you on a cold morning, and electrically adjustable. There are three different types—you have the same doors on all of these trucks. There is a lot of modularity in the design—these mirror arms can be the wide type, the medium type or the small type. Depending on the relationship between the cab and the body, because the bodies are built locally in 90 per cent of cases, and the type of application as well, you can find a combination of mirror and mirror arm which works best. This mirror we have designed with a local supplier and can be fitted in three different positions. Again it is a matter of getting the best possible result for each vehicle.

We have also gone to great lengths to introduce a lot of safety features on our heavy duty range. While Isuzu leads the market in light and medium duty trucks we do have some heavy duty entrants. We have done the same thing. We have driver's SRS airbag standard; we have the same top of the range driver's seat with integrated belt; ABS on all models; we have EBS which is the electronic braking system that works with our trailer brake systems that provide a very stable and secure vehicle. They are standard on our prime mover type vehicles. There is automated manual transmission on the heavy duty trucks as well—some suppliers already have those type of transmissions and Isuzu is now making them available—and the new design mirrors. We did not forget about the heavy end of the market.

I did have a video here but I want to leave time for questions. You have probably seen lots of car videos. This is an Isuzu heavy truck video. It compares various conditions. I will leave the files with David and you are welcome to look at it at some stage. Other safety features—one or two others—the cab strength certification is a requirement for 26-metre B-double operation. It is also a requirement for the 6.5 tonne steer axle limit. In recent times steer axle limits were allowed to increase, providing the vehicles met the new emissions technologies and they had front under-run protection systems. We have catered for that.

An important point is the Japanese regulation is not adopted here. That is a bit of a concern to us because it is a bit different to the European regulation and yet it is still a very safe and improved feature that we cannot make available here. That is the bullbar we have developed locally to suit the 26 metre B-double requirements. One other thing, our parts guy would not let me do this presentation without talking about genuine parts. The reality is with commercial vehicles, there are so many vehicles that are served in-house by fleets and in smaller type service operations, and they tend to go with the cheapest possible part. We are concerned as the manufacturer that we are required to meet the design rules for braking when the vehicle is new and yet inferior parts are supplied that have not necessarily met any level of testing or compliance. You may have a vehicle, particularly with brake system parts—I can understand if they want to replace things like mirrors and glass and so forth they would take the risk on that about quality, but when you are talking about safety features, things like brake

components, I am amazed at how many operators, especially of older vehicles, they will fit non-genuine parts. They do not even care where they come from. They come from some backyard in China that does not conform with any quality, as long as they appear to be the same as the genuine part, and they are about a quarter of the price, they will buy them.

The CHAIR—I noticed in Japan when we were there that the trucks over there, in comparison, they do not have bullbars, whereas we have them here. Is it a cultural thing/makes the truck little better thing—

Mr HUMPHRIES—No, no.

The CHAIR—rather than—

Mr HUMPHRIES—There is not a lot of roadkill over there. In the north island there is some deer that they have to avoid but otherwise they do not have kangaroos and wombats and emus and things to hit. Bullbars are really a necessity in Australia, for anything that goes outside the urban areas. As I said there, we recommend only the fitment of genuine parts for servicing. That is something perhaps that could be done at state level.

In conclusion, Isuzu is the number one selling truck brand and has been for 18 years. Our key area is in light duty and medium duty trucks, and we also have new heavy duty models, and we really have taken the initiative to raise the bar in safety. We have the strongest and safest cab of their type. They are the newest cab, driver's airbag, anti-lock brakes standard feature, and the integrated pre-tensioner seat belt is standard on the medium and heavy duty models. They will provide better active and passive safety to the driver, cargo and other road users than ever before—and I have a few recommendations there. Firstly, looking at in-service checking of commercial vehicles, you could certainly improve the safety overall, both to the truck drivers and other road users if you did an in-service brake test of some description. I am not necessarily saying an annual roadworthy like New South Wales does but some states have mobile brake roller testers where they have check the efficiency of the brake, for example.

I believe that all on-road vehicles, commercial or otherwise, should be fitted with ABS, and that is not something that is mandated in this country. It is a proven safety feature. Of course in the car environment we are now pushing towards stability control. Stability control: there are still difficulties with integrating in commercial vehicles. It is still very new. One or two European manufacturers have fitted stability control. I am not sure if it is commercially available yet but it will happen. I would certainly look at improving the seat belt wearing rate, perhaps mandating the integrated belts above a certain class of vehicle. Front under-run protection also is a proven feature. It certainly saves people in cars and smaller vehicles in a head-on collision, but perhaps look beyond only the European standard. Let the market decide regarding driver's airbag. I think it will become pretty much par for the course, as it has in cars. I have a comment there about digital tachographs, they are old school technology, but perhaps better than nothing. We have left it this long to not mandate any type of tachographs. We really could take a quantum leap rather than going back to last century.

Mr KOCH—Go to the next level.

Mr HUMPHRIES—Yes, I think so. I will finish off there. If there are any questions—

The CHAIR—No, that was pretty good. Thank you, Simon.

Mr HUMPHRIES—Okay.

Mr MULDER—We had a heap of questions but you have answered them all for us.

Witness withdrew.

Committee adjourned.