ECONOMIC DEVELOPMENT AND INFRASTRUCTURE COMMITTEE

Inquiry into Manufacturing in Victoria

Melbourne — 22 January 2010

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Mr M. Ross, Managing Director, Boeing Aerostructures Australia.

The CHAIR — Welcome. All evidence taken at the hearing is being recorded and you are protected by parliamentary privilege while you are giving evidence today. Comments made outside the hearing will not be afforded such privilege. Please state your name, your business address and your position within the organisation.

Mr ROSS — My name is Mark Ross, my business address is 226 Lorimer Street, Port Melbourne, and I am the Managing Director of Boeing Aerostructures Australia, formerly known here as Hawker de Havilland.

The CHAIR — Thank you. Over to you to give us the evidence. I thank you for presenting us with copies of overheads.

Mr ROSS — First off I want to thank you for the opportunity. If you will indulge me, I have just a couple of slides that really talk about our presence here in Australia, to give you some context for the perspectives that I have formed. Then when I get to the last page I will really talk to what I believe you are interested in, the terms of reference.

First off, Boeing has 2800 employees here in Australia, with about 650 in Victoria. We are engaged in commercial and military aerospace manufacturing, logistics and support, so the slide represents the different sites and number of employees that we have here in Australia. Boeing Aerostructures Australia is headquartered here at Port Melbourne. We have over 500 employees there and it does include our engineering design centre, so all development work is done here in Victoria.

We are quite proud of our role on the 787 Dreamliner. That is Boeing's newest platform. We have invested over $200 million to date and 75 per cent of that has been locally sourced, so we have a considerable economic footprint here in Victoria. We are industry leaders in the use of light robotics for manufacturing and also in resin infusion technologies. This product will generate for us about $4 billion in export revenue over the next 20 years, so it is very important. I would be remiss in not recognising that both the Commonwealth and the State of Victoria did give us a grant to help bring this work here to Victoria.

A theme I think you will see as we go through the questioning is one of technology and innovation. We have a long history of collaboration with a number of organisations here in Australia and specifically in Victoria, including the advanced composite CRC. We have a very long relationship with them and quite frankly a key role in some of the technologies we developed for the 787.

One thing of note is the recent establishment of Boeing Research and Technology Australia. So Boeing's main research organisation has opened a branch here in Australia. They have an office with us, co-located in Port Melbourne, with a specific mission of supporting our business requirements, so continuing to develop the second horizon technologies that will allow us to remain competitive in the future. Then they also have an office in Brisbane that helps support the military side of the Boeing businesses.

We also recently announced the advanced manufacturing research centre. That is a joint venture with Swinburne University and really is just starting to get up and running. Its focus will be primarily on the metals aspect of the business. Of course we are focused primarily on composites in the parts that we build.

With respect to the terms of reference, I will talk about what we view as the critical factors for manufacturing here in Victoria in the aerospace industry. I started off by listing an educated and capable workforce. For us what that really means is that we recognise that capital is fluid and it is very difficult to develop a sustainable competitive advantage based on property, plant and equipment. It is really about people and their ability to innovate and innovate faster and better than our competitors. To that end, support for the universities in developing qualified, capable engineering students is absolutely essential. That is one of the reasons that we partner with the universities, to have those sorts of relationships. We take it in turns every year in trying to leverage those relationships.

This is really interesting for me. I talked about industry leading in the use of light robotics, and when I came I was introduced to a new job that I had never even heard of before — mechatronics engineer — which is apparently fairly commonplace.

The CHAIR — You had never heard of that?

Mr ROSS — Yes. That is a term I was unfamiliar with when I arrived here and so it is a whole new job family for us, one that is very important to our future. I have pondered — and this is speculation, not fact-based — why it is that we have been able to advance the robotic technology as far as we have. I suspect it is tied to the automotive industry here and the fact that robotics are used extensively in that industry and some of that capability bleeds over into other industries like our own. We did attain some advantages as a result of that.

The second item that is high on our list is a stable industrial environment. We are part of a large, integrated supply chain. The previous speaker spoke of principles of lean manufacturing, and one of those principles is low inventory levels. So any sort of disruption is felt immediately, not only locally but within the entire supply chain. Our reality is our customers have choices and they are going to choose not to do business with unreliable suppliers. So we are really dependent upon a reliable, stable industrial environment. Frankly, we have had our share of difficulties at this site. I am pleased to say that we have made a lot of progress, and I am pleased with the direction in which we are headed in that arena.

Competitive regulatory environment is the next item. I will start off by reaffirming our commitment to the health and safety of our employees and to the environment; I think we have got a very good track record. Just last year we obtained our SO 14001 certification and continue to work to reduce our environmental footprints. To that end, we need to make sure that the regulatory oversight does not put an unnecessary or unfair burden on business. I would like to recognise what I would consider to be some successes and specific examples where technologies are used to reduce the cost of the bureaucratic aspect of compliance like the Victorian EREPs legislation where we are able to submit our reports online on the internet rather than having to go through the more paper intensive-type process and areas and things that I would encourage government to think about when regulatory legislation is considered — that the cost of compliance is factored in — and we find ways to use technology to achieve the outcome that is desired without putting undue burdens on business.

The final point I will make before I take questions is around support for the development and commercialisation of competitive technologies. Again our reality is this is not a low-cost manufacturing environment. We will not compete with emerging capability in the Third World on a dollar-per-hour basis. Our source of competitive advantage is through innovation and technology. So those policies that support the development of the technology and the commercialisation of the technology, and specifically some of the technology partners that I listed on the previous page, are the sorts of things that will allow us to continue to advance aerospace manufacturing here in Victoria.

With that — and I know it is rather short and brief but those are the areas that I believe are important to our business and aerospace in general — I would be glad to take questions on anything else that you would like to talk about.

The CHAIR — Do not apologise for being short and brief. That succinctness is very handy.

If we looked at what would be your key recommendations, it would be retaining and building upon the educated and capable workforce, the stable industrial environment, the competitive regulatory environment and support of the development and commercialisation of technologies.

Mr ROSS — Exactly.

The CHAIR — Then delving into a couple of those a little more deeply, you referred to your alliance with Swinburne, and we have had the advantage of hearing evidence from them. I would like to test what one person says against other people's comments in relation to it.

Mr ROSS — Certainly.

The CHAIR — I want to quote evidence from Professor Subic in September 2009. He is with RMIT's Advanced Manufacturing Precinct, as you would know only too well, and he referred in glowing terms to the collaborative partnership with Boeing, and I quote:

> We have established a collaborative agreement with Boeing, and we are now a focal university for Boeing. At the end of this year we are finishing a Boeing aerospace structures lab, which links to the composites and lightweights that I have mentioned. We are taking Boeing corporation further, hopefully, into the Advanced Manufacturing Precinct. We have already had discussions with them and a meeting facilitated.

We have had evidence also from Swinburne. You have touched on the importance of dual-sector partnerships, and given your size perhaps it works better than for smaller enterprises. Can you explain to us in more detail the benefits for Boeing from this partnership?

Mr ROSS — Yes. First off, I did not put an org structure in the presentation. One of the reasons we supported and encouraged and brought the Boeing Research and Technology group into Australia was a belief that they could better manage our technology relationships and let us focus on the manufacturing aspects of our business. If you go back and specifically look at the successes — I mentioned the advanced composites CRC — the work we did with them on resin infusion was some of the groundwork that allowed us to be successful on the 787 program. So that is a very concrete example of a collaborative relationship leading to a specific outcome.

The CHAIR — Excuse my ignorance. Was that with the universities?

Mr ROSS — No, that was with the Cooperative Research Centre as an example of success.

The CHAIR — Only the CRC? No universities were involved?

Mr ATKINSON — They are.

Mr ROSS — They are.

Mr ATKINSON — They are partners — sometimes.

Mr ROSS — Exactly. This is a new relationship for us in the case of Swinburne and we believe that, specifically assisting our business, it will be bringing some metals or machining technology to our local supply base. We do business, for instance, with a company here called Lovitt. I believe that they are forming a relationship with the advanced manufacturing centre at Swinburne that will allow them to be more competitive and therefore make us more competitive with our products as we go forward.

I am not sure if I am addressing specifically what you are looking for.

The CHAIR — Yes.

Mr ROSS — We have a strong interest in seeing them assist a medium size enterprise to be a successful member of our supply chain. One of the issues for us is local supply and the local capability, particularly in the metals work. Again one of the reasons we got behind the advanced manufacture centre is anything we can do to strengthen the local supply base is advantageous to us in the long run.

The CHAIR — Thank you. I think a lot of people just forget that it is not one company that is the emblem on the front of a huge building that has to have this support team behind it.

Mr ROSS — Yes.

Mr ATKINSON — We might just go to the CRCs first of all and your experience with the CRCs. What do you see as the real strength of that process and the shortcomings of it? You heard the evidence where the previous witness had come up against them.

Mr ROSS — Yes, and frankly we have some of the same concerns. Again we have a large amount of success with them, specifically around the development of the resin infusion technologies and there are other technologies. They have helped us with double diaphragm forming and other things. But their business model evolved and our business model evolved and we got to the point where we thought we would be better served bringing in the Boeing research group and allowing them to perform some of the role that we previously had looked to the CRC to perform.

We did have issues about IP, and I think the gentleman before me said words to the effect, 'We felt like it was our IP. We would give them money to help us develop it and then they would own the IP'. We had some of those same issues and concerns and also some issues and concerns about technology leakage — that some of this Horizon 2 technology would end up finding its way into competitors' products as well as our own and diminish the competitive advantage you get by making those sorts of investments. Again I imagine that we will

still have a relationship. We did not join the CRC as a partner in its most recent request for funding but would expect that as we go forward there will still be opportunities to collaborate on a contract basis rather than as a member.

Mr ATKINSON — You are a major company that can obviously enforce its patent protection. To what extent do you rely on trade secrets versus patents?

Mr ROSS — We have an entire department that manages our IP for us and they make those assessments of where our interests are better served with a patent and where they are better served with a trade secret. A couple of things first off. Again, I think we recognise the prior discussion that often a patent is simply a roadmap for your competitor to catch up, and we make that assessment as to whether or not the best way to protect the IP is via a patent or via a trade secret.

The other thing is that our products are very complex and there is usually not a single piece of intellectual property that distinguishes them. It is really about the integration of many technologies to come up with an optimal solution. So it is a little bit harder for people in reverse engineering to get some meaningful benefit out of some of the work that we do. We have platforms that we deliver where somebody is not going to go build a competing product and try to sell it to the Boeing company or to Airbus. So we do not have the direct threat; it is more the technology leakage onto the next platform that will compete with the platform that we are currently on.

Mr ATKINSON — As I understand it, most of your work is with composites, because the aeronautical industry finds that they are very high-performance obviously. You have to bring together the raw materials to then work with them to create those composites. What percentage of your raw materials is sourced in Australia?

Mr ROSS — One hundred per cent is imported. None is sourced locally.

Mr ATKINSON — Really?

Mr ROSS — To that end, though, we are under discussions with our resident supplier about opening up a manufacturing facility here. Our desire is to have a local supplier. Those conversations are contingent upon hitting certain volume requirements, which we believe we will be able to hit. I do not know how closely you follow the 787; we have had some unfortunate delays in that development program which have caused us to put those conversations on the backburner. As we begin to ramp up production now — we are in flight test — I expect that we will re-engage in those conversations and look to have a local source for the resin provision.

Mr ATKINSON — The major components of that are petroleum industry based?

Mr ROSS — Correct.

Mr ATKINSON — Australia obviously drills and pulls oil out. At the moment the value add is not there. We are sort of running it through our cars and so forth but really not looking at value add in terms of composites and plastics generally.

Mr ROSS — Our two main components are carbon fibre and resin. For the 787 we are talking about resin infusion there. They are imported separately. For our other programs we bring in a material called prepreg, which is nothing more than carbon fibre that is pre-impregnated with the epoxy resin material. Most of our product is sourced either out of Europe or the US. Again, from at least a near-term horizon perspective, the best opportunity for us in terms of raw material locally sourced will be the resin. There is quite an investment required to build a fibre plant and a prepreg plant, and I do not think that, at least at our current size and scope, the volume would be high enough to encourage someone to make an investment for those sorts of facilities — at least in the near term.

Mr LIM — I am just wondering if you would be able to share with the Committee how the worldwide financial crisis has impacted on the manufacturing operation of the Australian part of Boeing?

Mr ROSS — I saw the question in the terms of reference about what the impact would be.

Mr LIM — And job loss, no doubt.

Mr ROSS — Yes. We have, like everybody, tightened our belt during these hard economic times. While I mention we have invested about $200 million, we still have some significant work to do in that facility. Given the global economic situation and the delay to our 787 program, we have slowed down that completion. So where we had originally intended to finish the factory in the middle of last year, we are actually not going to complete it until more towards the end of this year. We have got still some fairly significant investment to go.

To make a long story short, all it did was to cause us to slow down and not spend money before we needed to. We are still committed to the facility and will complete the vast majority of the work by the end of this year.

The CHAIR — Can I ask you about clusters? How many countries have you worked in, and have you got a sense of where clusters might work best internationally? How good are we basically? How bad are we? What can we learn from the best?

Mr ROSS — I moved here from Winnipeg, Manitoba. I ran a similar-sized business.

Mr ATKINSON — That is a good move.

Mr ROSS — It was a fantastic move. For the record, we enjoyed our time in Winnipeg, but we also really appreciate our time here. They do some interesting things there; they have a Manitoba Aerospace Association. Each province in Canada has an aerospace association. They get some government funding. The government funds it because they — and this is my interpretation — got tired of multiple, small, individual companies coming to the government to lobby on behalf of this project or this or that. They recognised that having an industry association that would meet and take an industry view of what is best for the industry and then bring those recommendations forward was probably a better way.

When I say government support, I think they pay for an executive director and then industry funds all the other activities around that.

When I was in Manitoba I co-founded a research centre there to help with the development of technologies for our business and some of the other related businesses in the area. They are on the web if you are interested; it is the composites research centre of Manitoba. Again we got some government support to get that up and running, and I think it has been very successful in terms of helping small to medium size enterprises improve their capability and be competitive to support the aerospace industry that exists in Winnipeg.

I would suggest if you want to look at a place that Canada would be an interesting place; for example, the conversation about using the super fund for venture capital. In Manitoba they did that. Unfortunately they had some management and mismanagement issues and so it is not a complete success story, but rather than write it off as not a feasible solution I think it would be better to look at it. What did they do wrong? What could we learn from it, and is there an opportunity to have a scheme like that that would be successful?

The CHAIR — Has there been such a report done on it?

Mr ROSS — I cannot answer that question. Again a web search would — —

Mr ATKINSON — Other Canadian provinces have those too, don't they?

Mr ROSS — Yes, I am most familiar with the one in Manitoba of course and that was a voluntary super fund. Employees decide where they want their money invested and that fund's stated purpose was to develop economic development in Manitoba. Of course a lot of people who live there were interested in that, so were interested in putting their super funds into that.

The CHAIR — Before you get onto super funds, back to clusters. Is there anything internationally we should learn from and try to implement in Victoria?

Mr ROSS — Yes, we did some work with clusters while I was there, and again there has been a lot of research in that arena. I am not sure that I could recommend any specific area that you should look at.

The CHAIR — Okay, thank you.

The ACTING CHAIR (Mr Atkinson) — What I wanted to just touch on was the partnerships with the universities and other institutes and organisations that are actually helping you to work and develop new technologies. I guess I am interested in what you describe as the benefits to Australia and locally to Victoria of those partnerships and the nature of the relationships, whether those institutes are simply paid for work done or whether they have ongoing licensing opportunities or royalty streams that accrue from the work that you do with them, and the extent to which the investment that they make as institutes is available to the rest of the Victorian economy and other players.

Mr ROSS — I am not sure that I am in the best position to answer that question. I can arrange to have my engineering or technology leader provide some additional information if you like.

The ACTING CHAIR — Thank you.

Mr ROSS — I know we value those relationships. My engineering leader, for instance, sits on a board with RMIT. I believe they deal with issues around curriculum, making sure that they address the sorts of things that we think are important to us. We take in interns every year. We have strong ties that we think are important and we think we benefit from them, but in terms of specific examples and particularly the reach back to the universities and other areas, I am just not in a position to see or comment on that.

The ACTING CHAIR — I would be interested if you could supply some extra information on that because I think one of the important things is that we need to understand that a company the size of Boeing is simply not just taking the best and the ripest fruit from Australia. You pay taxes and you do provide jobs and so on and so forth. But if you taking some of our best ideas developed there and locking them up, then there is an issue in a public sense as to what Victoria gets beyond the jobs and taxes, which are a given.

It is not really a loaded question, but I think it is an important question for a company the size of Boeing to perhaps make a contribution to in the context of this inquiry.

Mr ROSS — Yes. I think you will find that we actually invest in these relationships and so money flows from Boeing into these institutions not only to benefit directly the things we are interested but there is also a spillage or follow-on effect. Again I can arrange to have some additional information provided in that arena. I will get some specifics for you in terms of that.

The ACTING CHAIR — That would be great. Obviously as a major corporation — and you mentioned the mid-range companies that you have got some relationships with — I just wonder if you could talk a little bit more about the alignments or interface that you have with other businesses that you are actually enabling to grow and develop their skills and contribute in other ways to the Victorian economy as well.

Mr ROSS — I think a really good success story and a company that we have a lot of confidence in and have done a lot of business with is Lovitt in their machine house. I do not know whether you are familiar with them. But early on in the 787 program we were looking for a source of primarily composites-based parts but there are a lot of metal details that go into composites. We were looking for a metal supplier locally that could support us. We looked at Lovitt and did not believe they had the wherewithal to undertake a project of that size on their own.

What we did is introduce them to another company, a US-based company, and I asked the two of them to work together to provide our total needs on the 787. I think it is a good example of recognising the benefits from and the need to develop the local supply base, recognising that although they were not currently capable there were still ways to engage them constructively. I hope that if you were to call them before you, they would also cite it as a successful example and that they got something out of the relationship we asked them to form with their US partner on this package for us and view it as a positive thing as well.

The ACTING CHAIR — You have had some experience internationally and obviously as a multinational company that has exposures to a range of government environments and behaviours in terms of supporting and trying to encourage their industry, do you have any perspectives on our Victorian position in particular? I guess I am talking about the performance of our industry, the level of our government assistance compared with some international experience that you have had and the areas where you believe a state government in particular can get the most bang for its buck in terms of supporting and encouraging industry?

Mr ROSS — My experience has been in Canada, the US and here, and I would suggest that Australia and Victoria measure up pretty favourably if you look at the organisations or institutions that they have available. Quite frankly, when I was in Canada — and I mentioned that I helped start the research centre there in Manitoba — we looked at that time at the Hawker de Havilland business here and the relationship they had with the advanced composites CRC and as the business leader in Winnipeg I said, 'I want what they have. What is it going to take to get it?'. Of course, nothing like that existed, and that is why we formed the research centre we had.

So I think there are good vehicles here. I think the CRC structure, although we are not participating this time around as a member, has served us well at that point in time where we were in our business. I think we have an excellent relationship with CSIRO and have done a lot of work with them; we have done work with DSTO, right down the street from our facility, in their wind tunnel and things like that. There are a lot of government or quasi-government organisations and resources available. For the most part I would suggest they are easy to access. We do run into the bureaucratic stuff from time to time but nothing that is out of the ordinary or that you could say was any different from some of the issues I dealt with when we were in Canada dealing with like organisations.

All in all, I would say they measure up fairly well in terms of supporting the research and development-type activities that I think are key to our type of business being successful.

The ACTING CHAIR — Is there anything that we can do better or do to actually provide more impetus to our industry sectors?

Mr ROSS — I am absolutely sure there is. Again as a large company we have a lot of resources behind us, so we probably do not have some of same needs that small or medium size enterprises have. I hear stories like the last testimony that was given and clearly there are opportunities to find a way to help enterprises like that that have a unique capability or technology to be successful, and I think those should be sought out.

Mr LIM — I am just wondering what proportion of Boeing's supply chain is Australian, particularly Victorian-based, and what other sources Boeing is involved with in this part of the world.

Mr ROSS — I have not checked the numbers lately but we are about 150 000 employees and 2800 are here. So if you do the maths, it is a relatively small percentage. But having said that, this is the largest presence outside of the US. We have more Boeing employees in Australia than in any other place in the world and do more manufacturing in Australia than any other place in the world.

The ACTING CHAIR — We would like to thank you, Mr Ross, for coming today and sharing with us. We would appreciate that extra information if it is possible.

Mr ROSS — Yes, absolutely.

The ACTING CHAIR — As I said, it was not a loaded question as such. It might have sounded a bit like it; it might look like it in writing. But I just think it is an important perspective that we should have in there from a company such as yours. Certainly we like having Boeing as a corporate citizen in Victoria. We have quite a lot of admiration for what the company has achieved and the contribution it does make.

You will receive a copy of the Hansard transcript in about a week or so to check. You cannot alter any aspects of substance in terms of that record, but if there are spelling errors or minor corrections that need to be made, please do not hesitate to suggest those and we will do what we can.

Mr ROSS — Is there a time frame in terms of getting back to you on this issue around the university and other structures? Do you need something in the next week or two weeks?

Ms SIMMONDS — I'll email you with what has been requested today and you can respond.

Mr ROSS — That would be great.

The ACTING CHAIR — Three weeks or so probably.

Mr ROSS — No worries.

The ACTING CHAIR — Is that right? Is that okay?

Ms SIMMONDS — Yes.

The ACTING CHAIR — The other thing is that whilst it is probably not going to be a thing for you, everything you said in here is protected but if you walk out and say the same things outside, you are no longer protected.

Mr ROSS — I understand.

The ACTING CHAIR — So just be careful. I do not think you said anything that is harmful. Thank you very much for appearing before us today. We appreciate it.

Mr ROSS — Thank you very much.

Committee adjourned.