



Submission No 7

Review of the Defence Annual Report 2006/2007

Name: Mr Ted Bushell Air Commodore (Ret'd)

Ted Bushell
30 Hillside Rd
MOUNT WAVERLEY VIC 3149

25TH July 2008

The Hon Arch Bevis, MP
Chair, Defence Sub-Committee
Joint Standing Committee on Foreign Affairs, Defence and Trade
Parliament House
CANBERRA ACT 2600

Dear Mr Chairman,

SUBMISSION TO REVIEW OF DEFENCE ANNUAL REPORT, 2006-2007

I respectfully submit that the Department of Defence and the Defence Materiel Organisation have, over time, provided incomplete, erroneous and misleading information to Parliamentary Inquiries, Hearings, and Reviews held into Defence management. In particular, in the critical area of Australia's New Air Combat Capability project, this practice, if not corrected, will lead inevitably to the loss of Australia's ability to achieve, maintain and sustain air superiority in our region, as required by Government, by 2010, if not before.

I further submit that part of the reason for this situation, as well as for the problems that have become entrenched in our Military Justice System, is the continued failure of the Department of Defence and the Defence Materiel Organisation to comply with the Legal Services Directions of the Attorney-General, as well as the Defence Service Charter. The result has been to entrench serious problems in the areas of morale, command and control, and the timely and effective management and administration of the Department and the Services.

Summaries of the facts and argument supporting these two assertions are included in my attached submission as Matters 1 and 2:

Matter 1: Examines problems inherent in our system of exercising traditional Parliamentary checks and balances relating to the management of Australia's air power capabilities.

In essence, it identifies the manner in which misleading information is being put before Parliament, which will result in our failure to establish and maintain air superiority in our region.

Matter 2: This relates to the continued failure and consequences of the Department of Defence and the Defence Materiel Office to comply with the Attorney-General's Legal Services Directions and the Defence Force Charter.

I do hope that these matters will be found helpful in identifying and correcting problems central to the proper management of Australia's security, and I wish you and your Committee much success.

Kind Regards,

A handwritten signature in cursive script, appearing to read "E. J. Bushell".

(E.J. Bushell, Air Cdre AM Ret'd)

SUBMISSION TO
JSCFADT REVIEW OF THE DEFENCE ANNUAL REPORT, 2006-2007

By Air Cdre Ted Bushell (Ret'd)

Matter 1: Problems with Parliamentary Checks and Balances and the Submission of Misleading Information to Parliament.

List of Evidence:

- a. Letter to Mr.H. Evans, Clerk of the Senate, dated 29th May 2008, titled '*Problems with Parliamentary Checks and Balances – with Particular Reference to the Department of Defence*', forwarding a paper of the same title with the following attachments:
 1. Letter to Senator, the Hon Mark Bishop, MP, dated 7th March 2008, titled '*Senate Estimates Evidence – a Quality Assurance Process*', with attached marked-up excerpts from Hansard relating to the Standing Committee on FADT Estimates for February 2008.
 2. Letter to Senator, the Hon Mark Bishop, MP, dated 19th March 2008, further to Attachment 1.
 3. Copy of Evidentiary Submission to the Review Team – Review of Australia's Air Combat Capability.
- b. Letter from Mr H. Evans, Clerk of the Senate, dated 4th June 2008, in response to a.

Background:

The letter and attached paper referred to above were directed to Mr H. Evans to provide feed-back to the Senate Administration on what is seen as a general problem with the effectiveness of our system of Parliamentary checks and balances.

In his response, Mr Evans suggested that the paper be sent to the Senate Committee on Foreign Affairs, Defence and Trade where it might be heard by the current review of the Defence Annual Report.

Senator the Hon Mark Bishop
Chair, Senate Standing Committee on Foreign Affairs, Defence and Trade
Parliament House
CANBERRA ACT 2600

For Information:

The Hon Joel Fitzgibbon MP
Minister for Defence
Parliament House
CANBERRA ACT 2600

Senator the Hon John Faulkner
Special Minister for State
Parliament House
CANBERRA ACT 2600

7 March 2008

Reference A: Hansard Report of the proceedings of the Senate Standing Committee on Foreign Affairs, Defence and Trade - Estimates, Wednesday, 20 February 2008

Dear Senator Bishop

SENATE ESTIMATES EVIDENCE: A QUALITY ASSURANCE PROCESS

We, the undersigned, request a Government sponsored quality assurance review of the evidence presented to you at the Foreign Affairs, Defence and Trade Senate Estimates hearing held on 20 February 2008.

The reason for this review is that if the Government accepts the statements made at face-value and acts on them in good faith, then it is our professional judgement that Australia will be at risk of loss of sovereignty. A sound and timely quality assurance process can detect and correct such serious errors.

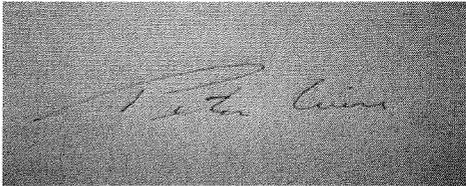
Our combined skills and experiences are extensive. We have served over two hundred years in the RAAF, have flown several thousand hours of wartime and simulated air combat, our achievements have been recognised by awards for bravery, service and dedication; our academic training is relevant and substantial, and we have a deep understanding of the engineering, science and technology of past, current and future weapons of war.

We have drawn example extracts from Reference A, highlighted and bolded sections of interest, and provided comment intended to correct the Hansard record. This document is enclosed.

We recommend that an independent Committee be appointed to review the veracity of these statements. As a suggestion, a Committee could be led by a Retired Chair of The Senate Standing Committee on Foreign Affairs, Defence and Trade, assisted by subject matter experts from organisations like ASPI and ANAO.

The Committee's Terms-of-Reference should be to examine the veracity of the statements made at this Senate Estimates Hearing, and report to you before the completion of any of the phases of the Air Combat Capability Review.

We have an extensive database of evidence to support such an inquiry and would make this available to the Committee. A combined meeting with the Committee would be an effective way to proceed with this inquiry, as our collective wisdom and experience can then be applied directly to an assessment of each of the statements made at the Senate Estimates Hearing.



AVM (Retd) P J Criss,
AM, AFC



AVM (Retd) B J Graf
AO BSc BE [Aero] Test Pilot



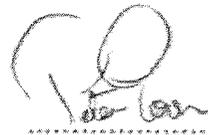
Dr C Kopp
DipEng, BE(hons), MSc, PhD,
SMAIAA, MIEEEE, PEng



AIRCDRE Garry F Bates, AM (Ret'd)
FIEAust, CPEng, FRAeS, MAICD



WGCDR RSG C L MILLS
AM, MSc, BSc



SQNLDR (Retd) P Goon
BEng (Mech), FTE USNTPS



WDCDR (Retd) B Dirou
Distinguished Flying Cross



GPCAPT Ron Green, AFC

Proof Committee Hansard

SENATE

EXCERPTS FROM:
STANDING COMMITTEE ON FOREIGN AFFAIRS, DEFENCE
AND TRADE

ESTIMATES

(Additional Budget Estimates)

WEDNESDAY, 20 FEBRUARY 2008

CANBERRA

CORRECTIONS TO PROOF ISSUE

This is a **PROOF ISSUE**. Suggested corrections for the Bound Volumes should be lodged **in writing** with the Committee Secretary (Facsimile (02) 6277 5818), **as soon as possible but no later than:**

Wednesday, 23 April 2008

BY AUTHORITY OF THE SENATE

**SENATE STANDING COMMITTEE ON
FOREIGN AFFAIRS, DEFENCE AND TRADE**

Wednesday, 20 February 2008

Members: Senator Bishop (*Chair*), Senator Trood (*Deputy Chair*), Senators Cormann, Forshaw, Hogg, Sandy Macdonald and McEwen

Senators in attendance:

Senators Abetz, Adams, Allison, Barnett, Bartlett, Bernardi, Birmingham, Boswell, Boyce, Brandis, Bob Brown, Bushby, Chapman, Colbeck, Coonan, Eggleston, Ellison, Fielding, Fierravanti-Wells, Fifield, Fisher, Heffernan, Humphries, Johnston, Joyce, Kemp, Lightfoot, Ian Macdonald, McGauran, Mason, Milne, Minchin, Nash, Nettle, Parry, Patterson, Payne, Ronaldson, Scullion, Siewert, Stott Despoja, Troeth and Watson

Committee met at 9.01 am

DEFENCE PORTFOLIO

In Attendance

Senator Faulkner, Special Minister of State and Cabinet Secretary

Department of Defence

Portfolio overview and major corporate issues

Air Chief Marshal Angus Houston AC, AFC, Chief of the Defence Force Mr Nick Warner PSM, Secretary of Defence

Budget summary

Defence funding, financial statements, purchaser-provider arrangements

Mr Phillip Prior, Chief Finance Officer

Mr Steve Wearn, First Assistant Secretary Budgets and Financial Planning People

Defence Personnel

Mr Steve Grzeskowiak, Acting First Assistant Secretary Personnel Mr Phil Minns, Deputy Secretary People Strategies and Policy

Major General Michael Slater DSC, AM, CSC, Head Personnel Executive Capability development Unapproved major capital equipment program

Dr Stephen Gumley, Chief Executive Officer Defence Materiel Organisation Vice Admiral Matt Tripovich AM, CSC, Commander Capability Development Defence Materiel Organisation

CHAIR (Senator Mark Bishop)—I declare open this meeting of the Senate Standing Committee on Foreign Affairs, Defence and Trade. I welcome Senator the Hon. John Faulkner, Special Minister of State, representing the Minister for Defence; Air Chief Marshal Angus Houston, Chief of the Defence Force; Mr Nick Warner, Secretary of the Department of Defence; and officers of the Defence organisation.

Senator JOHNSTON—On Monday the 18th we had an announcement from the minister that there will be a review of Australia's air combat capability. The review is to be conducted in two stages. The first stage will assess the requirements for 2010 to 2015, the feasibility of retaining the F111, a comparative analysis of aircraft available to fill any gap and the status of plans to acquire the Super Hornet. This committee is to report, I think, on 14 April. What is the cost being incurred by the Australian taxpayer with respect to the acquisition of Super Hornets whilst the government considers the decision? Where are we at with that? I believe fuel tanks have been ordered.

Air Chief Marshal Houston—We are a little bit down the track with the Super Hornet. It is probably very hard to put a precise figure on where we are at right now on how much money has been expended without going into a detailed look at our records.

Comment: Dr Gumley makes quite precise statements, but see below for doubts about the basis for these estimates.

Senator JOHNSTON—Let me just glean from that that we are incurring costs, as we sit here now, with respect to that acquisition?

Air Chief Marshal Houston—The manner in which these things are done is that the costs are incurred at particular milestones. Certainly there has been some expenditure, and I will get Dr Gumley to cover anything else. But, essentially, we have incurred some expenditure.

Senator JOHNSTON—So do we have a **binding contract** with the provider of that aircraft?

Air Chief Marshal Houston—I will get Dr Gumley to go through the detail of that, but the aircraft is being bought under the foreign military sales arrangements. We have an agreement under that with the US government. But I will get Dr Gumley to go through that in some detail.

Comment: The important matter of the binding nature of Contractual Arrangements for the F/A-18F is not pursued by the Committee.

Senator MINCHIN—Before you do that, could I just ask the minister exactly what the government's position is on this matter of the Super Hornets. On 30 October 2007 Mr Fitzgibbon, as the then shadow minister for defence, said:

The Howard government has committed us to both the JSF and the Super Hornet and we accept that they will be part of our ... capability mix.

Then, yesterday, Mr Fitzgibbon said:

... if the advice comes to me from the review that the Super Hornet is not up to job, I would have no hesitation in cancelling it—

entirely contradicting the statement of 30 October. Could you just clarify the position, Senator Faulkner. Is the government now in a position where it is saying that it is open to it to, and that if necessary it will, cancel this contract, or does the statement of 30 October reflect the actual position of the new Labor government?

Senator Faulkner—My understanding at this stage is that this issue is being considered as part of the air combat capability review. The future of the Super Hornets is being considered as part of the air combat capability review.

Senator MINCHIN—So the statement, made on behalf of the then Labor opposition on 30 October, 'We will accept the Super Hornet as part of our air capability ' mix, no longer stands, and it is open to your government, as was said by Mr Fitzgibbon yesterday, for you to cancel this contract. We just want to clarify, before we go any further with this, the position of your government. Is it open to your government, and is it your stated and clear position that you are willing to cancel this contract if this review you have set up so finds?

Senator Faulkner—I will ask CDF in a moment to speak about the air combat capability review, but I think you would be aware that it is a two-stage process. Are you aware that it is a two-stage process?

Senator MINCHIN—Yes, I have heard that statement two or three times.

Senator Faulkner—The first stage is going to assess four things: Australia's air combat capability requirements in the period 2010 to 2015, the feasibility of retaining the F111 aircraft in service beyond 2010, a comparative analysis of aircraft available to fill any gap that may be left by the withdrawal of the F111 and the status of plans to acquire the FA18 super hornet. I believe that that report is to be provided by the end of April, but I would like to check with officials that I have got the right date.

Air Chief Marshal Houston—The first of the four things that the minister mentioned will come to government sooner than that for their consideration. Then later the second half of the review will come, and the deadline for that is the end of April.

Senator Faulkner—So it will be earlier than the end of April.

Senator MINCHIN—I understand that. I have read the thing several times. Mine is a simple yes or no question, as a prelude to further questioning on this review. Is it the government's position, that as a premise or

a prelude to this air capability review, that it is open to the government to cancel the Super Hornets? If it is open to the government, is it not the case that that completely contradicts Mr Fitzgibbons statement of 30 October? Do you accept that to be the case?

Senator Faulkner—All I can say to you—

Senator MINCHIN—It is a yes or no question, Senator.

Senator Faulkner—You would like me to provide a yes or no answer, as I have so often done at Senate estimates, but you often find that ministers do not respond precisely in the terms that you would like them to.

Senator MINCHIN—That is surprising!

Senator Faulkner—You make sure that that draft press release you have up there in the office is not issued, because I am not going to necessarily provide you an answer in the form that you want. But I will certainly provide you with an answer. The answer

is this: in the first part of the air combat capability review, the status of the plans to acquire the FA18 Super Hornet will be reported on to government and government will make a decision within that early time frame.

Senator MINCHIN—I put it to you that that is a complete non-answer. So all we can do is operate on the basis of Mr Fitzgibbon's statement as of yesterday that the Labor Party has changed its position and it is now open to it to cancel this contract. We will proceed on that basis.

Senator Faulkner—Senator, proceed as you wish. If I were you I would take account of the statements that the defence minister makes on these issues. You can also take account of evidence that is provided by me and officials at the table. It is quite clear what the government's intentions are there. I cannot outline them any more clearly. This is in the public arena, and it will be a matter reviewed in the first stage of our review on air combat capability. Decisions will be made by government within a very short time frame.

Senator JOHNSTON—After all of that, what is it going to cost us in May to cancel the Super Hornet contract?

Dr Gumley—The Super Hornet contract is a foreign military sales contract — **Senator JOHNSTON**—So we are paying the American government directly, 'aren't we?

Dr Gumley—We pay the American government, who in turn place a contract on Boeing. The American government already have a series of contracts on Boeing for the production of Super Hornets for the United States Navy. Any purchase by Australia would be considered as a contract change proposal to the longer term contracts. We get the same unit prices as the US government. I know of no way of getting better prices than the US government, particularly in the home market; therefore I am confident that the price we are paying for the aircraft is as good as Australia is going to get. We have the contract with the United States government. They in turn have to do something called 'definitisation' of that contract with Boeing.

That is a process they are going through at the moment. From talking with my contemporaries over there, I know that that is something that is going to happen in the next month or two, and it is just a standard contract change proposal—as we would say in our jargon—that they have to do with the

United States Navy. However, our contract with the US government already commits us to pay for long-lead items and commits us to something called 'termination liability', which I guess in Australian jargon we would call a cancellation fee.

Senator JOHNSTON—How much?

Dr Gumley—That fee is continuing to grow because, obviously, the longer you get into the program the more aircraft are being built.

Comment: These F/A-18F 'stock-standard' aircraft from the USN/USMC production line, and could be returned as the production has many more than 24 aircraft to run. The US Navy in particular is becoming progressively more stretched for aircraft resources. So, at present there are no aircraft being specially built that cannot be re-absorbed and one wonders where actual cost is being generated except for the cost of funds for future short-term materiel orders for the increased production number.

Senator JOHNSTON—How much? Let's take 1 May.

Dr Gumley—The termination liability as of about now is expected to be about \$400 million.

Comment: What is the basis for this estimate? As noted above, if these aircraft are returned to an existing production line, where is the loss?

Senator JOHNSTON—What is the rate of growth of that \$400 million? \$10 million a month? \$20 million a month?

Dr Gumley—No, it would be more than that. You can almost work it out on a monthly basis as the cost starts getting built into the aircraft, because Boeing have to place their contracts on their suppliers. So I think it would be a pretty lineal build-up of termination liability as the aircraft get more and more built and more and more subassemblies start coming together.

Comment: The converse logic is that if the specific aircraft are NOT currently on the production line, why is the cost escalating at such a rate?

Senator JOHNSTON—I have great faith in your capacity to have planned for this. Can you tell us what you think it is going to be in May? How much are we up for, please?

Dr Gumley—I think we are working in the order of \$80 million to \$100 million each month that goes by.

Comment: Dr Gumley needs to quantify this estimate.

Senator JOHNSTON—The second stage looks at trends in the Asia-Pacific air power until 2045, which suggest to me that we are now also reviewing the JSF plan. Is anyone going to tell me that is wrong?

Air Chief Marshal Houston—I think the second part of the review is a full review of the strategic circumstances out to 2045—looking at what is likely to happen in our near region and the broader region and essentially at what the developments in air combat technology are likely to be through the next 40 years. So essentially that will all be looked at and then there will obviously be a comparison of the various pieces of equipment that are available within an air combat system. I would stress very much at this stage that what we are talking about in the modern area is air combat systems —system on system, not platform on platform. I think a lot of the commentary out there in the broader community tends to focus far too much on the simplistic notion of aircraft on aircraft rather than on the need to consider all the complexities of a modern air combat system.

Comment: When a system fails, platform-on-platform prevails. We should not plan to use a systems approach to compensate for the weaknesses of individual system components.

Senator JOHNSTON—The minister's press release says: The review will also examine the case for and against acquiring the F-22. That tells me the JSF is in the firing line.

Air Chief Marshal Houston—Everything is on the table—yes. But what I would say is that, if you are **thinking F22 versus JSF, I think that is the wrong way to think about it because fundamentally the two aircraft do completely different jobs.**

Comment: The USAF does not consider the F-35 JSF has the capacity for air dominance, and use the F-22A for this role. If Australia ignores this doctrine, it exposes the F-35 to a role it cannot sustain, and that may lead to the F-35 being over-matched and destroyed in large numbers in future air combat engagements.

One is a genuine multirole capability that can cover all aspects of air combat, including the very important area of maritime strike and indeed all other strike requirements that we have. The other one is a capability that is optimised for control of the air. It is an air dominance aircraft. So, if you went for the F22 and you had nothing else, you would be deficient in strike capability. You would have a wonderful air dominance capability but you would not have any strike capability.

Comment: 'Multi-role' except in the one capability that counts – superiority over Regional air combat aircraft. The USAF is replacing the strike role of the F-117 with the F-22A and clearly sees a strike role for the aircraft, as six of the ten F-22A Squadrons are formerly strike Units. Currently, the F-22A is being cleared for release of Small Diameter Bombs and is already dropping the JDAM smart bomb. The aircraft is large enough (about the same size of the F-15E which carries formidable weapons loads,) to have additional weapons cleared – although, like weapons carried externally on the F-35, these external loads will negate both airframe's 'Low Observability' characteristic.

Senator JOHNSTON—And JSF is your preferred option?

Air Chief Marshal Houston—I do not think it is an either/or. We need to look at all options, and that is what the government intends to do. What we have here is a very complex subject, a very complex set of plans and some very difficult technology to get your head around. At the end of the day, I think what the

government is doing is essentially reviewing all aspects of those plans, all aspects of the concepts that they have to grapple with. I think they are trying to get an understanding of the technology that is available, the technology that might be needed for the strategic circumstances we are likely to face in the future. I would say that, as we come up with the outcome from this review, they will be better informed about our needs and what the requirements will be in the air combat arena into the future. Obviously this review, like other reviews, will feed into the white paper process, where everything is on the table.

Comment: Such analyses have been completed long ago by the USAF, which concludes it needs an air dominance fighter – the F-22A. It should also have been the process for the Australian New Air Combat Capability project initiated back in 2000, but that process was set aside by a pre-emptive decision to commit to JSF via the SDD program, without any true comparative analysis of future capabilities for the Australian strategic environment.

Senator MINCHIN—Minister, the CDF has just indicated that, as he understands it, the government's position is that everything is on the table. I would like to ask you the same question with respect to the JSF as I asked with the Super Hornet: does that mean that it is the government's policy and premise for this air capability review that it is open to the government to cancel arrangements with respect to the JSF and not proceed with the purchase of the JSF?

Senator Faulkner—I cannot give you any better information than what is contained in the terms of reference for part B of the review, which indicates this is in part e:

2. The review team will report on...

e. the status of plans to acquire the Joint Strike Fighter (JSF) and the status of the JSF project, including:

- i) the implications of the F/A-18 Super Hornet acquisition for the planned JSF acquisition;
- ii) options to achieve an all-JSF fleet should that prove desirable, including advice on the optimum numbers of aircraft in the context of the overall air combat system; and
- iii) an assessment of complementary options, including unmanned aerial combat vehicles...

I can give you no better information than to indicate to you that those are the terms of reference for the second part—or, if you like, part B—of the review of Australia's air combat capability.

Comment: The need for this latter-day review clearly demonstrates the lack of a sustainable evaluation process as should have occurred with the NACC project.

Senator MINCHIN—For those of us here, the clear and obvious conclusion from those terms of reference, the reference to the F22 and the CDF's remarks are that it is open to the government as a consequence of this review to cease all further processes for the acquisition of the JSF. Should we proceed on that basis or not?

Senator Faulkner—I am not in a position— **Senator MINCHIN**—
Come on!

Senator Faulkner—wait a minute—at this hearing to second-guess the outcomes of the review of Australia's air combat capability. I know you have been inviting me to do so. I am in this instance happy to ask the Minister for Defence, Mr Fitzgibbon, if there is anything he might care to add. But as the Minister representing the Minister for Defence at this committee, obviously without portfolio responsibility for these matters, I am simply not courageous enough to go beyond the information that I have available to me. But I will ask Minister Fitzgibbon if there is anything he can add to the answer I have given, which does indicate to you what the processes are, what the terms of reference are, what the timing is in relation to the review of Australia's air combat capability and how that interfaces with the issue of the Joint Strike Fighter.

Senator MINCHIN—Thank you, Senator Faulkner, for that non-answer. When you do contact Mr Fitzgibbon you might ask him whether his statement of 30 October—to the effect: 'The Howard government has committed us to both the JSF and the Super Hornet and we accept that they will be part of our air capability mix'—still stands, or is it now the case, from reading the terms of reference and based on what the CDF has said, that that statement no longer has any veracity and it is now open to the government to cease any further steps to acquire the JSF? That is what we want to know and I am amazed you cannot give us an answer to that.

Senator Faulkner—Senator, I have actually given you an answer; it is just that you do not like the answer that I have

given you. But you are so persuasive, Senator, that I am also happy to ask Mr Fitzgibbon if he cares to respond to the second question that you have just asked.

Senator MINCHIN—Thank you, Senator Faulkner. On the basis that it does seem clear to all of us that it

is indeed the case that it is open to the government to find that it is no longer going to pursue the JSF, I wonder if Dr Gumley could indicate how much has been spent on the JSF and the consequences of not proceeding with the JSF.

Dr Gumley—I can talk about the money spent. As you know, we committed US\$150 million, plus our own project costs, which run at about \$20 million a year. Compared with a purchase, if we go ahead with \$10 billion, \$12 billion or \$14 billion, that is a very appropriate amount of money to be spent. It is just like the Kinnaird process, which says that you spend money derisking projects between first and second pass. We are doing that, just like we have done on the ships and the other projects we are looking at. So I am quite happy with the project costs and the amount of money that we are spending on derisking. The derisking of the project, as we have it at the moment, is a standard first or second pass step. It is looking at the cost, the capability and the schedule. I would see this review as part of that derisking process.

Comment: The terms ‘de-risk’, ‘de-risking’ and ‘de-risking programs’ are not part of the Risk Management lexicon in either the Australian or International standards on Risk Management. These terms, also, do not appear in the Kinnaird Review Report nor were they mentioned in any of the public coverage or briefings pertaining to the Kinnaird Review or Kinnaird Process.

This point goes to the precision in language or lack thereof in Defence and the DMO. As it is being applied in the DMO 'de-risking programs' is resulting in 'avoiding risk' and risk avoidance behaviours which equate to 'avoiding the work', resulting in further 'deskilling' of Defence and Industry'. The use of 'Total System Performance Responsibility' (TSPR) type contracting methodologies is one way this deskilling is being done. A serious consequence of such an approach is the transfer of control of sovereign assets into the hands of people who don't even live in Australia let alone are Australian.

Senator MINCHIN—Thank you, Dr Gumley. Do you have any idea how much the Australian private industry has committed to the JSF so far, in approximate terms, in its investment in this project?

Dr Gumley—I do not have that figure with me. I will get that during the break and get back to you. **Senator M INCH IN**—I appreciate that.

Senator JOHNSTON—All of this review appears predicated on one interesting point—that is, that when we are examining the case for and against the acquisition of the F22 someone somewhere, with the power and authority over the Pacific, has said, 'You can have it.' Can anyone assist me? The last I heard was that the Japanese have asked for it, the Israelis have asked for it and we have asked for it, and everyone has been told 'No.' What is new?

Dr Gumley—The US would have to pass an amendment through to congress for the F22 to be releasable to a foreign country.

Senator MINCHIN—Could I just add to that. Does anyone at the table generally believe that there is any prospect of the United States changing its position on this and, if not, why on earth are we even examining the case for and against the F22?

Senator JOHNSTON—Absolutely.

Senator MINCHIN—Nobody has a view on that? **Senator JOHNSTON**—The silence is deafening.

Air Chief Marshal Houston—Perhaps I could respond to that. Essentially, I think the government wants to have a look at the F22 and, if there is an overwhelming case to perhaps procure the F22, then there might be a need to approach the Americans on the basis of a requirement for that particular aircraft. They are

the sorts of circumstances where there might be a need to go forward. It is slightly different from saying: 'Would we be able to get the F22 if there was a compelling case to get the IF22? think that is different from the circumstances when the question was asked last time, which was basically: 'Would we be able to get the F22 if this air combat capability review came out with an outcome that there was a requirement for ' the I think F22? circumstances would be different. In those circumstances, an approach might be made again.

Senator MINCHIN—Can I just query you about the capacity to properly analyse and come to conclusions about the case for and against the F22 in what is about a six-week inquiry?

Air Chief Marshal Houston—I think you know, Senator, that over the years we have been maintaining a watching brief on a number of platforms. We were looking at the F22 when I became the Chief of Air Force just under seven years ago and we have continued to maintain a watching brief on it.

Comment: A former RAAF member advises that he was the Acquisition Member on the NACC Board at the time Houston became CAF and had never seen any F-22 data, nor had DMO requested it. It was not until late 2001 when the 3 Requests For Information were issued for response by end January 2002 (one by Capability Staff, one by DMO and one by DSTO).

Therefore IF a 'watching brief' was occurring it was being undertaken by Capability Staff and not DMO project office staff who carry the responsibility for evaluation and analysis. The watching brief would not have had access to any tender quality information.

Indeed, we have one exchange pilot who is converting to the F22 at about this time; if he has not started, he is about to start an exchange posting on the F22. So we know a fair bit about the F22, we know an awful lot about the JSF and we also know an awful lot about the Super Hornet. We have another exchange pilot who I would characterise as the top gun on the FA18: he is the lead instructor on air-to-air training at the US 's training Navy squadron and he has got a large number of hours on the Super Hornet. So we know the relative capabilities in a very practical way. We have also had DSTO involved in tracking these capabilities. We have got a lot of knowledge in this particular arena.

Comment: DSTO was a member of the NACC Project Board from its instigation in 2000. NACC had a member who was qualified in combat system modelling and DSTO made a specific request for modelling quality data from each potential contender in the RFI requests of late 2001. Because the Board was by-passed by USDM, the former RAAF member

advises that he has no direct knowledge of if or how the data received in early 2002 was ever analysed. However, two AIRCDRES have advised that such analysis did not occur.

Senator MINCHIN—I appreciate you informing us that you already have a lot of knowledge of the two aircraft. Isn't it on the basis of that knowledge that Defence recommended to the former government that Australia should acquire the JSF, not the F22, even if the F22 were to be made available?

Air Chief Marshal Houston—I think it comes back to a question of whether you go for one multi-role platform to satisfy all your needs or whether you go for a mix. If you bought some F22s you would probably end up with some F35s, so there is probably an option there that you could look at, which would be a mix of F22s and F35s. That is what the new government wants us to have a look at. Nobody is suggesting, as I said earlier on, F22 or F35. Rather, it might be some F35s and some F22s: a mix similar to the mix we have had for years with the F111 and the FA18. All of these things will be looked at in the context of the air combat capability review. At the end of the day, this is, as you know, a very complex area, and the new government wants to come to grips with all of the issues that are involved with this very, very expensive procurement in coming up with a new air combat capability.

Senator MINCHIN—I just want to clarify that Defence previously did recommend the JSF ahead of the F22.

Air Chief Marshal Houston—Yes, and I do not walk away from that, because fundamentally those recommendations were made way back in 2002. We are six years on from there now and I think we know an awful lot more about all of the capabilities that are at play here.

Comment: Regional capabilities are being fielded, or are expect to be fielded in future, that will defeat the F-35, but not the F-22A. So, the requirement for the F-35 has been overtaken by Regional capabilities that outclass the JSF whenever introduced to service - which is still in a nebulous future.

We are about to embark on a white paper process; all of this will feed into the white paper process and decisions will be made at the appropriate time. As the minister said, decisions will need to be made in regard to how we handle the period from 2010 to 2015, given the fact, as Dr Gumley said, that the Super Hornet is in process now and each month we spend more dollars on that particular acquisition.

Proceedings suspended from 3.35 pm to 3.51 pm

Senator JOHNSTON—Chief, can I come back to this review of Australia's air combat capability. You have set out that we are looking at the F22. The wording on the ministr's release is:

The review will also examine the case for and against acquiring the F-22.

Quite apart from being very, very presumptuous in the context of what the Americans have already said, why on earth would we inquire and review the case for and against acquiring something that to this point in time we have been told we cannot acquire? Is there some change here that puts that into a proper context? If there is, I think the committee should be aware of it.

Air Chief Marshal Houston—I think you know the whole business of air combat capability has been an area of very vigorous debate over the last few years. There are many proponents of the F22 out there in our community. I guess what we are looking at here is the capability of the F22, given the concerns that have been raised by some of those people.

When you look at the environment out into the future, it is vitally important that we know everything we can about that environment, because we are likely to see the proliferation of highly capable air combat aircraft around the region for years to come. So this is a vital capability.

Comment: The Royal Malaysian Air Force expect to have their 12 Su-30MKM aircraft operational by the end of 2008, and are receiving a substantial amount of Russian help in that regard. Since the Su-30MKM substantially overmatches the F/A-18A/B and the F/A-18F, we can reasonably assess that Australia will lose Regional air dominance at that time. Other countries in the Region also operate Sukhois and MiGs of this level of air combat capability, and the numbers are increasing. DIO is responsible for such analyses. Head Air Force Technical Intelligence has the responsibility to evaluate the capabilities of potentially aggressor capabilities in our area of strategic interest and to brief the services accordingly. How well they understand the capabilities of aircraft such as the Su-30MKM is a matter for debate. In a recent exchange with DIO re Sukhois, they were unaware the aircraft could carry external fuel tanks. The available tanks include a 6,000 Kg conformal centre-line tank and 2 * 2,000 kg wing tanks, which has a profound effect on this aircraft's air combat capabilities. These data were supplied to the Department of Defence by Sukhoi in a Russell Offices briefing on the Su-30MK in 2000.

Coming after Su-30 series is the Su-35BM, which has a large aperture, powerful radar, likely to be able to engage the F-35 from most directions. The aircraft has the latest technology Infra-Red Search and Track sensors and the F-35 is very vulnerable in this waveband, as its engine is substantially (160 degrees C) hotter than other combat jet engines. The Su-35BM is expected to be operational 2010-2012.

Next is the PAK-FA also being developed by Sukhoi. This is a Low Observable (LO) or stealth aircraft which is highly manoeuvrable like the F-22A and has a large shielded weapons bay. It is expected to be operational about 2013-15; i.e. before the F-35 becomes operational in 2015-16 – assuming there are no further program slippages. This, current development indicate a high risk of the F-35 being obsolete and overmatched before it is fielded.

At the end of the day, given all the different views out there in the community, **some of them very well informed** and some

of them not so well informed, there is a need to have a look at our plans and do a due diligence on this whole area.

Comment: Complex assessments of air capability requirements would be enriched by inviting participation from 'very well informed' sources, and particularly the retired military community wherein a huge reservoir of professional technical and operational expertise resides.

I think it is a very reasonable thing for a new government to do: assess the strategic environment that we are likely to have and what our capability requirements might be well into the future.

One of the things that the new minister mentioned was uninhabited air vehicles. Clearly, if you go out to 2045, you have to start thinking about those. I think there is a need to do this as it will feed into the white paper. The other important factor at play here is that the second pass for the joint strike fighter F35 would come in the aftermath of the white paper.

Once the white paper is out on the streets, the government has determined its defence policy. It would then be looking at, if a decision was made to continue to proceed with the F35 out of the air combat capability review and the white paper process, we then feed into the second pass of the Kinnaird process. It is quite logical in a sense: you do due diligence up-front; you do your major work in terms of the white paper. That white paper will be a very robust process involving the whole of the department. Then, it is into the business of going forward, if the government decides to go with the JSF, with second pass with the JSF. That is the process that is at play here.

Dr Gumley—There are two practical issues of the F22 that the committee might be aware of. The first is that it would require legislative amendment in the US. The second is that it would be a large sum of money to make an exportable version of that aircraft. As you took at the cost-benefit analysis, you have to factor both those into the equation.

Comment: This is totally wrong, and there have been previous submission to Parliamentary Committees that have addressed this subject directly.

The USAF, wanting its ally, the RAAF, to operate the F-22A, conducted an evaluation of the changes required to the F-22A for an 'A' version to be 'exportable' to Australia. Because of Australia's high level of inter-operability with US Forces, the changes required were minimal and have been completed. Thus, little or no additional funding would be required for the F-22A to be exported to Australia.

That is not the case for the 'B' version to be operated by nations other than Australia. For the technology of the F-22A to be secured against such events as loss or defection, substantial investment would be required.

Senator MINCHIN—I just want to ask whether this review team is required to report on the cost implications of any recommendations it makes?

Air Chief Marshall Houston—Absolutely yes. Let's face it, the F22 is very expensive. **Senator MINCHIN**—Twice the cost per unit of the JSF?

Air Chief Marshall Houston—In all probability, yes. On top of that, there is a requirement to make it exportable which probably means several billion dollars more for an exportable aircraft. These are some of the realities that the review will be looking at.

Comment: The cost of making an 'exportable' version has been dealt with above. CDF has received personal briefings on the 'exportable' state of the F-22A.

Comment: The F-22A is currently in production and its costs are known. US acquisitions in 2009 cost the 20 F-22A purchases at \$USM170 per aircraft, and the 23 F-35 at \$USM231 per aircraft. The eventual cost of the F-35 is unknown but development difficulties and delays in the program have its mature cost escalating towards that of the

F-22A. If any large customer – such as the USN- defects, F-35 cost may well exceed F-22A costs by a substantial margin.

When assessing the cost, Defence should use ‘Cost of a capability’ rather than ‘cost of an aircraft’. Assessments of the relative capabilities of the F-22A and the F-35 suggest that the former is several times more capable than the latter. Finally, if the F-35 fails to achieve air dominance – a task for which it was not designed – with the result that it is destroyed in large numbers in air combat, then its cost-benefit contribution to air combat capability is: zero.

CHAIR—Are the additional costs involved in making the platform exportable because it would be customised for Australian demands?

Air Chief Marshall Houston—It would need to be in a form that protected the technology that is fielded in the F22.

Senator JOHNSTON—Dr Gumley, you are on the review panel I am pleased to see. On the situation with respect to these aircraft, I see that we are shopping around because we have no confidence in what has been done to this point. That is the clear inference from this inquiry.

Dr Gumley—I do not think that is correct, Senator. I think we have a lot of confidence in the work that has been done in the last couple of years.

Comment: the assessment work that has been done should be revealed. While there was such assessment completed as part of the Explosive Ordnance Studies, there is a paucity of other evaluations of the capability of various air combat aircraft and systems.

Senator JOHNSTON—The inquiry is reviewing—everything is on the table. We have already canvassed there the \$400 million plus several million per month or per day, whatever, with respect to the Super Hornets. We are also looking at the case for and against F22, and I trust it is F22A. We are also looking at what other aircraft we might use. I hope we are putting Super Hornets into that mix. Can you confirm that the Super Hornet will be a part of the review?

Air Chief Marshal Houston—I might take that. The first part of the review will obviously look at the Super Hornet. Essentially, the review will be conducted in two stages. The fourth part of that is the status of plans to acquire the FA1 8 Super Hornet and also a comparative analysis of aircraft available to fill any gap that may be left by the withdrawal of the F111. So the Super Hornet is very much in the initial part of the review.

Senator JOHNSTON—At the second stage?

Air Chief Marshal Houston—I will read the second stage, part b, straight out the terms of reference: ... the status of plans to acquire the Joint Strike Fighter (JSF) and the status of the JSF project, including: i) the implications of the F/A-1 8 Super Hornet acquisition for the planned JSF acquisition So the Super Hornet is going to be there in the first part and the second part.

Senator JOHNSTON—Very good, thank you. I have no further questions on this.

Senator MINCHIN—I wonder whether, in the light of this review, you could brief us on the current status

of the F111 and indicate to us whether there have been in the last 12 months serious issues raised with respect to the operational capacity of that aircraft, given the age of the aircraft?

Senator JOHNSTON—And particularly with reference to the F15 structural failure recently.

Air Chief Marshal Houston—First of all, the F15 in the United States—this is the F15C, I believe, the air defence version of the F15—suffered a very serious structural failure. I will not go into that in detail. But in terms of the F111, essentially after the decision was made by the last government, we are in the process of running down the F111 capability. The F111Gs have been retired from service and right now we have, I think, about

18 F111s remaining. Essentially we have also been running down the support capability. So everything we are doing is focused on withdrawing the aircraft from service in 2010 in line with the government decision that was taken the year before last. That is the status of the program at the moment.

Senator MINCHIN—And that remains the case—you have not put those processes on hold, have you?

Air Chief Marshal Houston—No, the process continues. It is probably important to get an early decision, hence the need to do part 1 of the air combat capability review in a timely manner, because some of the workforce in the F111 are required to transition to support the Super Hornet and obviously there is a need to train air crews and so on and so forth. So we have not got there yet, but there is a critical point. We probably are almost beyond the point of no return in terms of the F111 capability. It would take a huge investment to turn it around and resurrect it so that it could cover the whole of the period we are talking about.

Comment: Not so. The F-111 capability has been recently audited by ANAO and has been found to be sound. All that needs to happen for the F-111 to be available until 2015 is for logistics funding to be restored. The Software Facility also needs to be restarted to maintain capability upgrades for the aircraft. The ANAO costs indicate that five years of F-111 operations would cost of about 15% of the cost of acquiring and operating the F/A-18F Super Hornet.

Let us talk in terms of JSF. First JSF squadron is due to get that initial operational capability 2015 or 2016. So we are looking at a capability that has to cover the period to 2015.

Comment: This assumes the JSF program suffers no further slippage – a low probability given the past development history. Also of concern is that the clearance of air-to-ground weapons has been delayed and diminished in scope, so squadrons of F-35s in 2015-16 may have very limited strike capability, thereby creating a substantial ‘capability gap’.

In order for the F111 to do that, there would have to be considerable investment in enabling it to do that. I would also add that the F111 increasingly does not fit into the modern air combat environment that we see out there in the region. I know this is a point of great debate, but the fact remains that it is very

much a product of the sixties and seventies. It is a fast aircraft; it has a large radar cross section; it does not manoeuvre particularly well; and it would have to be escorted by other aircraft to get through to the target.

Comment: The F-111 has the range, pay-load and speed to fly mission profiles that can avoid interception, especially when the aircraft is fitted with a capable radar warning receiver. If operated with or without the F-22A as escort (operational necessity dictates the use of escorts), it can effectively deliver large ordnance loads over great distances. By contrast, both the F/A-18F and the F-35 are 'slow' aircraft and if engaged, are effectively 'sitting ducks' as they cannot disengage from aircraft such as the Su-30/35/PAK-FA which have the performance to run them down and destroy them. So, it is the 'slow' aircraft like the F/A-18F and the F-35 that are most in need of fighter protection.

One of the things about that *Four Corners* program that really did not come over terribly well was the fact that if you are going into a contested environment you would have to have a fighter escort.

Comment: Not so. The mission profiles were constructed using flight manual data for each aircraft. The F-111 was able to fly a mission profile that avoided radar detection and this point was made in the program. If armed with JASSM cruise missiles, it could release weapons and use its fuel and speed to escape from intercept from aircraft such as a Su-30. By contrast, the relatively poor range / payload for the F/A-18F require it to fly High-Low-High profiles and to 'drag' supporting tankers into ranges where they can be detected by ground and airborne radars. So, in the *Four Corners* scenario, it is the F/A-18F that needs competent fighter escort, not the F-111.

You can compare that to a capability like the Super Hornet, which has not only hard kill capabilities but also electronic attack capabilities. It has a capacity to go through a defended area and it can deal with the threats using modern systems and modern technology. A capability like that connects into our system. It is ideally suited to being in a networked air combat system.

Comment: A vignette in the *Four Corners* program showed Fighter Combat Instructors (Australia's *Top Guns*,) briefing

for a mission against Sukhois. Their loss assessment was to 'accept up to a 50% loss rate' of the Hornets on the mission! This is a horrendous loss rate – for example the attrition for the RAF Bomber Command over Germany in World War II was about 5% per mission. This estimate does not corroborate the previous statement, nor that the Sukhois will be defeated by the F/A-18F which in some areas critical to air combat survival is inferior to the existing Hornet Fleet.

Comment: A chain is only as strong as its weakest link, and 'Network Centric Warfare' is a chain of connections, each vulnerable to attack. Russian weapons have the capability to 'jam' network communications and to engage high-value targets like the AEW&C and MMRT aircraft at ranges of 200 nm, and like the F/A-18F, these aircraft are so slow, then can be easily run-down and destroyed by aircraft with the range-payload capabilities of the Su-30/35 series.

As I said very early in the debate we have had today, what is important is a capability that fits into an air combat system which enables you to have very good situational awareness about everything around you. The modern aircraft are fifth generation aircraft, and aircraft like the Super Hornet are optimised for those sorts of conditions. In answer to your question—I have been a bit long-winded—the F111 is probably at the point of no return in terms of resurrecting it, **without spending a huge amount of money.**

Comment: Totally wrong and a statement not supported by the facts.

Senator MINCHIN—Finally on this, there have been numerous reports suggesting that defence did not support the acquisition of Super Hornets as the interim capability. That is not my understanding. Could you confirm that defence does, and did at the time, support the acquisition of Super Hornets as the interim capability?

Air Chief Marshal Houston—I will not breach cabinet confidence. I do not think it would be appropriate

for me to do so, but let me just say that there is 100 per cent support for the Super Hornet in the Defence Force **at the moment**. It is an awesome capability. It is very much a modern capability. I could run through the sorts of capabilities it provides for us, but I think it provides a good capability for the Defence Force in our present circumstances. I think if you were to go to Amberley or Williamtown and talk to the people that operate the aircraft you would find that they are 100 per cent behind it.

Dr Gumley—Could I just answer a question that the senators put earlier? I do not have the investment of Australian companies into the JSF program, but I do have the fact that 24 Australian companies have won work of approximately \$160 million to date, with another \$130 million under negotiation at the moment, directly for the low-rate initial production phase of the aircraft.

Comment: How does this compare with the value of the F-111 logistic support, completed almost entirely in Australia? Using the ANAO estimates suggests this is equivalent to about one year of F-111 support costs – work mostly undertaken in Australia.

Air Chief Marshal Houston—I saw something on the TV the other night—in fact, I saw it in the middle of the night on the internet, when I got back from what I was doing—which was a description of the Super Hornet which I would strongly disagree with.

CHAIR—I saw that too.

Air Chief Marshal Houston—I would like to put on the record that the Super Hornet is a very good capability. It is a capability that is genuinely better than anything around at the moment, other than an F22 or an F35. It is generation 4.5. It has an incredible ability to network into an air combat system, as I have already mentioned. It has a very advanced radar. Its radar is very similar to the radar that is fielded in both the F22 and the

F35, and it has some awesome characteristics that make it very useful not only in the air-to-air role, but also in all of the roles that it performs.

Comment: These capabilities are all irrelevant of the aircraft is destroyed in its first engagements with a late model Sukhoi or MiG.

This aircraft is more than a match for the Sukhoi aircraft that are out there in the region. This would give us an ability to maintain a very large capability edge over the Sukhoi capabilities that are being fielded in and around the region **at the moment**. Importantly, it is a multirole aircraft that not only performs very well in the air-to-air environment but also can meet all of our strike capabilities, including the vital maritime strike area. I could go on a fair bit about that but I think it is important to put on the record that this a very good capability. There is nothing better in the region **at the moment** and this would give us a very sharp edge over the other capabilities that are fielded in the region **at the moment**.

Comment: Notice the repeated use of the term 'at the moment'. Air Combat is a strategic capability, and dominance of the air in the Region is quoted as being essential in the existing White Paper and will be in the Government's forthcoming document. Why? Because if you lose air dominance you lose National Sovereignty.

The RMAF expect to reach IOC with their 12 Su-30MKM's by the end of 2008, and have considerable Russian support in-country to achieve this goal. At this time, Australia's air combat fleet will be overmatched, and this situation will not improve with the use of the F/A-18F, which, while an improvement over the F/A-18A/B, will also be overmatched. RMAF expects to acquire more Sukhois, Indonesia has also signed for an additional 20.

After the Su-30MK series comes the Su-35BM expected to be operational 2010-12 – a considerable improvement of the type and with sensors that will penetrate most of the F-35 JSF low-observability in X-Band Radar and radiation in Infra Red bands.

Next comes the PAK-FA, with an IOC of 2013-15 expected – this is a highly manoeuvrable, Low Observable aircraft with a weapons bay larger than the F-22. As noted above, the F-35 JSF IOC is about 2015-16, so the PAK-FA could be in the Region before the F-35 JSF, effectively negating its capabilities before it is even deployed.

Finally, the F/A-18F does not meet ‘all of our strike capabilities’. As a medium strike aircraft it lacks the range and payload to engage some critical targets. As an example, it is too small to carry the GBU-28 ‘Bunker buster’ bombs – required to engage some targets that weapons like the Small Diameter Bomb cannot penetrate.

CHAIR—Thank you for that, CDF. I too saw that extract on the ABC the other evening and noted the choice of language. I think it referred to the Super Hornet ‘dog as of a plane’ or something to that effect. I remember hearing it at the time and thinking it was a rather remarkable comment from such a former senior member of the armed forces.

Comment: The ‘Super Hornet’ flight manual shows that the maximum speed of the F/A-18F in a standard air combat configuration on an ISA+10 day is Mach 1.08 at 35,000 feet. If terms of competent air combat fighter aircraft, if this is not a ‘dog’ then one wonders what is. The term ‘sitting duck’ would also be a fair description.

Closing Comments:

Reading the Hearing report longitudinally, there are some serious non-sequiturs or errors in logic. The statement identifies the risk and the requirement to address that risk: ‘When you look at the environment out into the future, it is vitally important that we know everything we can about that environment, because we are likely to see the **proliferation of highly capable air combat aircraft around the region for years to come. So this is a vital capability.**

So, according to this statement, ‘This (F/A-18F) aircraft is more than a match for the Sukhoi aircraft that are out there in the region. This would give us an ability to maintain a very large capability edge over the Sukhoi capabilities that are being fielded in and around the region at the moment. Does this mean that the F/A-18F is adequate to match just the 4 Indonesian Sukhois, or does it apply to the Malaysian Su-30MKMs, the Indian Su-30MKIs or the Chinese Su-30MK2s? If the F/A-18F is adequate to match these Sukhois, then where is the need for the F-35 JSF? Conversely, if the F/A-18F is inadequate, as most informed

air combat analysts conclude, then why purchase the F/A-18F when it already overmatched by the Su-30MKIs and MK2s, will be further overmatched by the Su-30MKMs in 2008 – before the planned arrival of the F/A-18F in 2009?

The import of this statement is a key to the future development of Australia's Air Combat Capabilities: 'looking at what is likely to happen in our near region and the broader region and essentially at what the developments in air combat technology are likely to be through the next 40 years.' Using the USAF's analysis that the F-22A is an essential capability to impose air dominance, and Australia's stated requirement to maintain Regional Air Dominance over aircraft of the same type as the USAF must defeat, logic suggests that the F-35, not designed for air dominance, must at the very least be protected by an aircraft that is a competent air dominance weapon – the F-22A.

Finally, the Committee members did not ask about cost-benefit analyses. Given that the current estimated cost is circa \$16B for the F-35 and \$6.5B for the F/A-18F, a total of \$22.5B and easily the most costly Defence capability in Australia's history, the cost benefit of alternatives might be productively investigated. Under the US DoD capability analysis and development system, such analyses are referred to as AoAs – Assessments of Alternatives – and include quite detailed and robust cost effectiveness and cost benefit analyses.

Proceedings suspended from 5.53 pm to 7.32 pm

Senator the Hon Mark Bishop
 Chair, Senate Standing Committee on Foreign Affairs, Defence and Trade
 Parliament House
 CANBERRA ACT 2600

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19th March 2008

Dear Senator Bishop,

Reference: **A Joint Letter ‘Senate Estimates Evidence: A Quality Assurance Process’,
 Dated 7th March 2008.**

I am writing further to the correspondence referred to above which you received from a group of eight members of the public, most of whom were retired senior members of the RAAF. Regrettably, from the Minister of Defence’s announcement of 17th March that the government would follow the previous government’s decision to retire the F-111 fleet prematurely and proceed with the purchase of 24 Super Hornets, the points made in the paper were evidently not of sufficient concern to influence the findings of Part A of the Review of the Adequacy of Extant Plans for the Development of Australia’s Air Combat Capability to 2045.

However, there are a number of points that I feel should be placed on the record, with the sole objective of injecting some sense of context in what has become a long and messy war between perception and reality within Defence. So far, perception has been overwhelmingly triumphant, but in the end reality will inevitably prevail. The task of our current government is to be prepared for the consequences of that reality.

I should firstly introduce you briefly to the eight gentlemen who wrote to you:

- ***AVM P. Criss, AM, AFC (Ret’d).*** AVM Criss became the Air Commander Australia following a distinguished operational career both in Australia and the USA. His handling of RAAF operational support during the Timor crisis, during which the RAAF was undergoing substantial structural change, was exceptional.
- ***AVM B. J. Graf, AO, BE (Aero), Test Pilot, (Ret’d).*** AVM Graf entered the RAAF as an aeronautical engineer, was given pilot training and underwent the Empire Test Pilot’s Course in the UK. Engineering and test flying postings followed. He became Chief of Air Force Technical Services and Chief of Materiel when the RAAF was able to manage consistently the evaluation, source selection, procurement and introduction of all RAAF aircraft and technical equipment on time, cost and to specification.
- ***Air Cdre G Bates, AM, DipAeroEng, FIE(Aust), CPEng, FRAeS, (Ret’d).*** Air Cdre Bates filled a wide range of engineering posts including Senior Engineer of two fighter squadrons and Officer Commanding 501 Wing, where he drew up the F-111 Life of Type Support Study. As Director-General Aerospace Combat Systems in DAO/DMO he was responsible for both F-111 and F/A-18 update projects, and was the Acquisition Member

on the inaugural AIR 6000 Project Board. He is a graduate of the USAF Air Warfare College and the US Senior International Defence Management Program.

- ***Gp Capt Ron Green, AFC, (Ret'd)***. Gp Capt Green has accumulated nearly 5,000 command flying hours on 69 different types of military aircraft in seven countries. A very large portion of his experience has been associated with research and development activity covering aircraft performance, particularly in the tropics, making him an expert in that field. He has extensive experience in the evaluation of aircraft systems, and held the position of Commanding Officer of the RAAF Aircraft Research and Development Unit.
- ***Wg Cdr C. L. Mills, AM, MSc, BSC, (Reserve Staff Group)***. Wg Cdr Mills has 43 years of service with the Australian Defence Force. As a fighter and transport pilot, he flew and operated with the air forces of several countries. He understands professionally the strategy of force development and how military operations and tactics combine to produce successful outcomes. He worked recently with staffs from the USA, Canada, Germany, Sweden and Norway writing the concept of operations for the effective combination of military and civilian powers during multi-nation peace keeping operations. He has also a special awareness of how Australia's force development must evolve in response to emerging regional capabilities.
- ***Wg Cdr B Dirou, DFC (Ret'd)***. Wg Cdr Dirou flew transport, fighter and helicopter aircraft, and is probably Australia's most highly experienced wartime helicopter operator and planner. He served in Vietnam during 1968, 1969, and 1971 accumulating 4,360 sorties which included 211 insertions/extractions of SAS patrols. He was Project Officer for the design and operational introduction of the unique and highly successful RAAF UH-1H 'Bushranger' Gunship. After leaving the RAAF, he was involved with modern technology flight simulator training in Australia, Austria, Kuwait and Brunei.
- ***Sqn Ldr P. Goon, BEng (Mech), FTE USNTPS, (Ret'd)***. Sqn Ldr Goon filled a number of engineering postings in relation to the management of the F-111 Fleet, including the Airworthiness Project Engineer post at Headquarters Support Command. He graduated from the US Naval Test Pilot School as a Flight Test Engineer and then spent two consecutive tours of duty at the Aircraft Research and Development Unit working mainly on F-111 flight test and related engineering, modelling, and weapon clearance tasks. He left the Service believing he could better contribute to the provision of innovative, cost-effective solutions to meet Australia's defence capability needs, as a member of the Defence Industry, through his company Australian Flight Test Services.
- ***Dr C Kopp, BE (Hons), MSc, PhD, P Eng***. Dr Kopp has held a wide range of design, development, management, operational and consulting positions in the Australian computer and communications industry up to Chief Engineer. His work on air warfare strategy and doctrine has been published by the RAAF and the US Air Force. His PhD topic included design adaptation of AESA radars, and he was lead engineer for the 'Evolved F-111' Defence Industry Study. His reputation for wide ranging expertise and rigour of analysis is acknowledged in many countries overseas.

Many of these gentlemen have a range of expertise and experience that is just not available today but, despite pleas from Defence for such experience to come forward, they have been simply

ignored, some having had their careers cut short for speaking out as professionals should, while others were dispensed with prematurely, with bias.

For my part, I have served with many of the signatories over my 35 years of service as an Aeronautical Engineer in the RAAF and know the others well. My experience covered the complete range of professional postings at all levels of the RAAF organisation, including much major project management, culminating with my final post as the last RAAF Senior Maintenance Staff Officer at Headquarters Support Command.

I feel confident in saying that, due to the extensive professional de-skilling of the RAAF officer corps, there are very few members of the Air Force currently serving with the span and depth of proven experience and competence of these gentlemen. This situation goes a long way to understanding the chronic absence of well-researched, high quality and verifiable operational and technological advice to the Department of Defence, and thus to government. The Department and governments for their part have been complicit in the string of poorly researched and costly decisions that have flowed inevitably from not having in place an effective system of checks and balances.

Reality and perception have, as a result, been allowed to diverge at an increasing rate and along an unsustainable path, since 2000 - 2001. The causes and impacts of the de-skilling of the RAAF and the loss of professional mastery that followed will be the subject of an analysis soon to be released.

Turning to the evidence put before you at the Senate Estimates Committee in February, I would only observe:

The 'evidence' consisted solely of a repeat of the vague and unsubstantiated opinions put to the JSCFADT Inquiry into Australian Defence Force Regional Air Superiority in 2004 by the Chief of the Defence Force (CDF), the Chief of Air Force (CAF), and the Chief Defence Scientist (CDS). At and since that inquiry, the Department of Defence has been provided with extensive, verifiable evidence and facts covering every important aspect of the retention of the F-111, the decision to commit to the JSF, and later the purchase the Super Hornet, all subjects of concern to the Minister's current reviews – but totally without recognition, impact or acknowledgement. The old, unchanging, unqualified and unquantified opinions and fears were dredged up and passed on to you. That the Chief Executive Officer of the Defence Materiel Organisation (DMO) could not provide you with substantive costs in relation to any of your inquiries is an indictment of the competency of the organisation. That CDF could not give you any substantive reasoning behind his vague opinions and fears is of equal concern. In fact, it has been impossible to reconcile statements made by CDF, CAF and CDS with the publicly-known facts since 2004, which evidences a widespread and long-term disconnect between their perceptions and reality.

Unfortunately, every time that bad advice to parliament has been challenged before the committees, showing that the advice is clearly wrong, parliament has failed to take any action, thus contributing to the divergence between perception and reality, simply making matters worse by entrenching them even deeper into the Defence organisation.

I shall not take up the subject of the Minister for Defence's recent decision to proceed with the early retirement of the F-111 and confirm the purchase of the Super Hornet in any detail. He was warned early and strongly of the dangers of having an internal review populated by those who recommended or supported those decisions in the first place. Again, very detailed and unarguable analyses were provided to assist him from both local experts and very senior overseas officers.

That all this effort has come to naught places the RAAF and Australia in a serious position over the coming decades, both militarily and diplomatically. I have no doubt that we have not heard the last criticism of the Minister's decision, but it must be remembered that the Minister was acting solely upon the guidance of his advisers and his department.

In summary, my intentions in writing are to:

- Commend the observations of the eight people who wrote to you as being very informed and represent opinions shared by many others in Australia and overseas.
- Highlight the inevitable consequences of the loss of professional mastery in the RAAF and DMO (and the other services) in terms of the quality of advice being given.
- Note the inability of Defence to accept fact over perception and the inability of parliament to identify and correct this.
- Emphasise that the end result has led the Minister for Defence to take decisions that are at odds with all the hard evidence given him, decisions that, I feel, he took in good faith in following the advice of his department.

I hope that these brief observations may put the 'evidence' provided to you in its wider context and identify the long-term implications of what was put to you.

Kind Regards,

A handwritten signature in cursive script, appearing to read 'E. J. Bushell'.

(E.J. Bushell, Air Cdre AM, Retd.
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MOUNT WAVERLEY 3149)

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7th April 2008

Mr Neil Orme
First Assistant Secretary, Policy Development
Review Lead, Australia's Air Combat Capability

Dear Mr Orme,

***EVIDENTIARY SUBMISSION TO THE REVIEW TEAM
- REVIEW OF AUSTRALIA'S AIR COMBAT CAPABILITY -***

This submission is, regrettably, late, due primarily to my impression that the review, with its rather ambitious Terms of Reference and limited time, was simply a mechanism for confirming the decisions taken by the Howard Government in regard to Australia's Air Combat Capability, a feeling reinforced by the findings in regard to Part 1 of the Review. However, there are several matters which I feel should be placed on the record and which, I hope, may interest the Steering Group.

Background.

Announcements by the new Minister for Defence, both before and after the election, such as his criticism of the previous government's air capability decisions and his concerns about the delays, cost blow-outs and failure to deliver associated with Defence plans, coupled with the Prime Minister's promise to tackle entrenched problems with governance, gave cause for optimism that the problems that have been allowed to accumulate within Defence under governments of both persuasions might at last be redressed, following proper process.

Certainly, well-intended military aviation, ACADEMIC, and Defence Industry experts have, for some seven years, been trying to get senior officials, both military and civilian, to acknowledge the risks that their plans and decisions were creating for Australia's defence and Defence Industry capabilities, but to no positive effect. Anything resembling criticism was either ignored or countered with vague and unsubstantiated statements that were in turn shown clearly to be at odds with the facts. Defence, by about 2000, had in fact locked itself into a number of unsupportable positions that only became more entrenched when challenged.

The reasons behind this behaviour are, mainly:

- Firstly, there was the widespread de-skilling of the RAAF, which has impacted adversely its ability to carry out sound operational analysis, and the breadth and

depth of its technological expertise following the disbandment of its Engineer Branch. Some 70 years of hard-won professionalism were simply swept aside.

- Secondly, there was a similar de-skilling within Defence Industry as the number of local primes decreased to nil while foreign primes moved in, buying up many of our local small to medium support capabilities in the process. One result of this was to leave Defence and the Services largely defenceless in the face of the aggressive and persuasive marketing strategies employed by major overseas contractors whose main imperative is sales without concern for Australia's industry or self-reliance. Contractor's claims relating to performance, cost, and schedule were not now able to be tested by rigorous analysis because the organic operational and technological skills and experience needed had been lost. This in turn resulted in an unholy alliance between contractor and customer as both must now represent the aircraft sold and procured in the most optimistic light, even to the extent of denigrating or ignoring any criticism of it.
- Thirdly, a major de-skilling of the Defence Science and Technology Organisation (DSTO) also took place as organic analytical expertise declined following the Commercial Support Programme. The effects of this have been aggravated by that organisation being constrained in its areas of expertise and analysis in compliance with bureaucratic rather than traditional defence scientific objectives.
- Fourthly, during the early stages of the AIR6000 (New Air Combat Capability) Project, the Under Secretary Defence Materiel, having trouble in understanding the inherent complexities involved with defence equipment evaluation, selection, and procurement, decided to dispense with the robust processes for operational and technical analysis that had been developed.

This does not mean that within the Services, Defence, and DSTO there is a total absence of people who have expertise. It is more a matter of difficulty in having it recognised and accepted, especially where it may contradict Defence's position.

As a result of the above:

- Australia has lost the ability to conduct operational and technical analyses of the capabilities existing and evolving in our region, as well as the skills and experience required to analyse and specify Australia's air power needs to the level of operational and technical detail necessary. (The Requirement)
- Australia can not perform the rigorous operational and technical analysis of contractor proposals or the comparative analysis of competing air combat systems to the level of confidence required. (Source Selection).
- Given the above, Australia has experienced continual failures in managing air power projects in terms of capability against requirement, cost, schedule, and risk,

which has impacted adversely upon Australia's force structure, defence capabilities, and capability planning. (Procurement/Capability Development).

This situation is the inevitable consequence of poor government direction and poor bureaucratic implementation. However, the root cause may well lie in the structural changes that have been imposed over the years which have truncated the nexus between the Services, the Defence bureaucracy and DMO, the Minister, and Government/Parliament. As a result of this, any real or perceived 'problem' that might arise within any of these areas immediately assumes a bureaucratic/political dimension, in that it may reflect adversely upon the bureaucracy, the Minister, or government, so must be managed as a political threat that must be contained. Any collateral damage to the management of the Services or their capabilities is given little, if any, consideration. Within this environment, facts, the laws of science, physics and mathematics, and robust analysis rate no priority, and where inconvenient they are ignored or bent to satisfy the political will. The Proust Review provided some insight into this organisational characteristic, but the inconvenient truths revealed were soon subsumed by Defence PR.

The seeds for the problems with governance within Defence can be traced directly to the organisational structures and the divisions of responsibility that have been allowed to evolve, unmonitored and unchecked largely since the implementation of the Defence Reform and Commercial Support Programmes. Any suggestion of a need for clear lines of responsibility, with management feed-back loops designed to provide an equally clear measure of performance, has been resisted resolutely by Defence. As a result, the checks and balances necessary to ensure that performance standards are being met, and to provide for timely and effective political guidance and control, are not in place. This is the Defence governance challenge for the new government.

The Review.

Given this background, the optimism surrounding the announcement of the Review was guarded, but any expectation of an effective review was dashed when the Minister announced that it would be conducted internally and that the Steering Group would include a number of those who contributed significantly to the need for the review. The scope and time allowed for the review were also of concern, as was the lack of the available expertise and experience needed to conduct a meaningful analysis of the matters referred.

Even so, considerable, well-researched analysis and facts were provided to assist the Steering Group, and it was able to draw upon the wealth of evidence provided to the JSCFADT Inquiry into Australian Defence Force Regional Air Superiority. In addition, a number of retired RAAF officers and academics having the scarce expertise and experience sought by Defence offered their services, but were waived aside. The Steering Group thus had much hard evidence to assist it in testing the basis upon which current planning rests. That the review was not to look into the history which the Minister referred to as "poor air power planning" raises the question as to the degree of

confidence that can be placed in its findings. The ‘poor air power planning’ that preceded the review simply became part of it.

Moreover, the Minister’s recent announcement of the findings in regard to Part 1 of the review indicates that the information provided by external sources was totally ignored. This is actually in keeping with Defence’s traditional response to any information, no matter how well researched and validated, that is seen to call into doubt any position taken by the Department. Such a response is, of course, in direct contradiction with the standards espoused by Defence in its Charter and its many public pronouncements over the years. It is also wholly inappropriate in any military planning process – the stakes are far too high. In short, the Steering Group has merely accepted, without substantial reservation, the positions that had been put to the previous Minister and accepted by the Howard Government.

It was expected that the Review would re-examine current planning and its basis so as to satisfy the current minister’s anxiety over the ‘lack of sound, long-term combat air capability planning decisions by the former Government over the course of the last decade’. That this was not done, or seen to be done, means that Australia remains saddled with the long-term dangers inherent in that unsound long-term planning and execution and that this situation is accepted in full by the new government. The consequences are thus not now a Howard Government responsibility, but a Rudd Labour Government responsibility.

The Impacts of Stage 1 Decisions.

Given that the decisions were based upon the same poor air power planning that preceded the review, the long-term threats to Australia’s defence capabilities will remain the same. Some of these are covered briefly as follows:

There has been a lack of sound, long-term air combat capability planning decisions by the former Government over the course of the last decade. The consequences of this deficiency will remain, in full, but now under the ownership of the Rudd Labor Government.

The retirement of the F-111 was made in haste, but is now irreversible on the grounds of cost and a lack of crews and skills. With this decision, Australia will lose its only, long range (and irreplaceable) strike and deterrent capability – a capability that has been demonstrated time and again during overseas operational exercises, gaining the aircraft an enviable reputation for its reliability and excellence in its role. The Review has been provided with very detailed and accurate evidence with which to test all of the bases behind the previous government’s decisions, but this has clearly not been considered. There is no hard evidence to support any of the reasons given for this decision. In particular, the position put by the Chief Defence Scientist (CDS), to which the Minister seems particularly sensitive, is in direct contradiction with the fatigue life analyses that have been conducted over time. Unless the basis for the CDS’s

advice is provided for independent validation it must be rated as opinion only, creating fear where none need exist.

The Super Hornet is an excellent aircraft capable of meeting any known threat in the region. The justification for this decision also fails to convince. The Review has been provided with analyses and facts with which to test both the previous government's perceptions and the Maker's claims, but to no avail. The Review seems as wedded to the Maker's power point presentations as has been the case since the previous Minister made his snap decision. This is no substitute for adopting a due process approach to test the validity of both the decision and the claims made for the aircraft. This decision, when taken with that regarding the F-111, simply entrenches Australia as a 'bit player' in joint operations, and then only so long as we can convince someone else to provide the secure air space under which our sea, land, and air forces can operate safely.

The Super Hornet may well be quite satisfactory for the purposes for which it was designed and developed – a carrier-based interdiction aircraft with design – limited, air-to-air capability. It possesses a fine radar, if inherently restricted in development capability by its small antenna array, and Boeing has incorporated some effective radar reduction, if limited to specific aspects, and other improvements. It is hoped that our experts have analysed the aircraft's RCS polar diagrams to ensure that the advantages espoused by the Maker are validated. Notwithstanding any 'classified presentation', to claim that the aircraft is capable of ensuring Australia's air superiority now and into the future is wishful thinking. The low – risk tactics needed to destroy the aircraft, in both Beyond Visual Range and close combat, have already been developed.

The Minister's warming to suggestions that the F/A-18G Electronic Warfare (EW) version of the aircraft would be attractive to Australia, if followed up, will only entrench further the problems associated with the Part 1 findings. It should be remembered that retention and evolution of the F-111 would have given Australia, at low risk and cost, a first rate EW capability, one far superior to that of the F/A-18G.

Stage 2 of the Review.

The Review has quite adequate evidence before it to enable it to test the basis upon which Defence capability planning out to 2045 has been based. The main problem will be resolving how to proceed, given the wrong conclusions reached in relation to Part 1. That is, Part 2 will proceed from a false baseline.

The Review will, again, be faced with vague and unsubstantiated, usually indefensible, statements of opinion masquerading as professional advice. One example relates to the Chief of Defence Force (CDF) who stated in evidence to the Senate Estimates Committee (20 February 2008): *“Everything is on the table – yes. But what I would say is that, if you are thinking F-22 versus JSF, I think that is the wrong way to think about it because*

fundamentally the two aircraft do completely different jobs. One is a genuine multi-role capability that can cover all aspects of air combat, including the very important area of maritime strike and indeed all other strike requirements that we have. The other one is a capability that is optimised for control of the air. It is an air dominance aircraft. So, if you went for the F-22 and you had nothing else, you would be deficient in strike capability. You would have a wonderful air dominance capability but you would not have any strike capability”.

Over the years that CDF has persisted with this simplistic and misleading position, the F-22 has quietly entered service, with some 60% going to USAF day and night strike units. The aircraft's cost has gone down while its strike capabilities have been developed remarkably. Its performance in exercises has also been remarkable, and so it goes on. The whole story has been provided to the Review, so will not be covered in detail here. The question that must be asked is: how can CDF continue to believe what he is recommending in the face of the facts coming out of the US?

The Review also has sufficient evidence before it to support the proposition that the JSF will provide no greater capability in regional air superiority than would the Super Hornet, again quite contrary to CDF's pronouncements that it is an air superiority fighter of remarkable capability.

Further Risks.

The risks that will now mature in Australia's defence capabilities will run widely and deeply. Some of the more obvious ones are covered briefly below:

The loss of the F-111, together with the decision to proceed with the Super Hornet, will see mounting contractor and Defence pressure to drop the Hornet Upgrade Programme on the grounds of cost, risk, and time, which combine to provide only a high cost, high risk, short-term, limited capability. Considerable manpower and cost attractions will also be sought by closing down the deeper maintenance and system support capabilities that exist at Williamstown, as will be done at Amberley. With the certainty that the JSF will continue to be a high risk, cost, capability, and schedule project for the next five years or more, commercial pressures will mount for Australia to purchase more Super Hornets, including the G Model.

If Defence falls to this pressure, any thought of Australia having air superiority in our region over the coming three or more decades will be completely beyond achievement. We will just have to make do with an evolved Gen 3 naval aircraft while our neighbours will operate much enhanced Gen 4 air superiority/strike aircraft with the possibility of being able to then move on to Gen 5 Capabilities. The impacts of this upon Australia's standing in our region, and the world, as well as on our military options, must be faced as they are totally inevitable and irreversible except at considerable cost in political will, cost, and time.

Defence Industry Impacts.

Governments of both persuasions have long emphasised the need for a strong Australian Defence Industry to provide an effective measure of organic self-reliance - an industry base capable of not only maintaining our military systems, but also able to repair, modify, and upgrade our capabilities over their service life to sustain relative combat capabilities and availability in the face of emerging threats and technologies.

However, the decision to retire the F-111 carries with it the decision to close down the highly skilled and effective maintenance and system support and development capabilities that have been built up at Amberley over the years – capabilities that should be migrated to support our next generation of air combat aircraft to provide the necessary visibility and control of the nation's primary air power capability.

As the JSF Project moves further out in time, and the 'gap' created as an inevitable consequence of the F-111 decision is filled by the Super Hornet, this migration can not now be achieved. DMO's contract for the Super Hornet, and any aircraft of the type that may follow, provides for only the lowest skill level of work to be done in Australia, all work and associated skills beyond that will be go to US contractors overseas. These so-called 'de-risking' contracts have also been entered into for other aircraft purchases, but their inevitable consequences seem to have been either not understood or ignored by government. The facilities, skills, and support capabilities established at Williamtown are also at great risk of being closed down as a direct consequence of DMO policies and contracts.

As a result of current Defence planning and DMO 'de-risking' contracts, sovereign control of Australia's air combat capability will be contracted out to overseas companies, resulting directly in the demise of Australia's Defence Aerospace Industry. The Review will have to resolve the direct conflict between DMO's contracting philosophy and government policy on Defence Industry and self-reliance.

The Central Challenges to a Successful Stage 2.

The primary task for the Review during Stage 2 is now seen to be to contain and hopefully redress the damage that will flow from the Stage 1 decisions. The hazards here will be twofold:

- The methodology used must be appropriate to the task, which does not seem to be the case for Stage 1.
- The analytical skills available are unlikely to be sufficient to resolve the conflicts between unsupported perceptions, held both within Defence and by contractors, domain expertise and experience, and the verifiable analyses and facts that have been presented.

In regard to the latter, the US Central Intelligence Agency (CIA) has encapsulated this problem well, based upon its experience with what seemed to be soundly-based premise that proved to be drastically wrong:

“In how many of these instances have we been forced to admit the erroneous premise was not empirically based but rather a conclusion developed from its own model (sometimes called an assumption)? And in how many cases was it determined after the fact that information had been available which should have provided a basis for questioning one or more premises; and that a change of the relevant premise(s) would have changed the analytic model and pointed to a different outcome?” (Douglas MacEachin, former CIA Deputy Director of Intelligence in ‘Psychology of Intelligence Analysis’ by Richards J. Heuer Jr, Centre for the Study of Intelligence, CIA, 1999.)

A Last Wish.

I can only urge you and your Support Group to handle the evidence given you with respect and use it to test the basis of current capability perceptions and planning in a professional manner. Australia’s security and standing over the next many decades, as well as the safety and lives of Service members, depend upon your getting it right, and demonstrably so. I wish you and your Steering Group the best during your deliberations.

Kind Regards,



(Ted Bushell
Air Commodore (Ret’d))