

Chapter 6

'I see no submarines' — Upgrading the *Orions*

Prior to the debate over the leasing of the F-16s, the New Zealand Government had already committed itself to extending the structural life of the P-3K *Orion* aircraft which provide New Zealand's maritime air patrol capability. In the 1997 Defence White Paper, the Government acknowledged that New Zealand's *Orions* had far exceeded their planned service life, but the planning for refurbishment and/or replacement of major structural components was well underway. However, the White Paper also went on to note that:

There are serious deficiencies in the *Orions'* sensor suite that impairs its ability to carry out both surface and sub-surface surveillance tasks. These will be addressed (Project *Sirius*) as one of the most important priorities in the rebuilding of the NZDF's capabilities.¹

The re-winging of the *Orions*, Project *Kestrel*,² was intended to extend the life of the airframe for some 20 years. Project *Sirius* was intended to replace the aircraft's tactical system, in order to provide an effective maritime patrol capability, with the ability to work alongside coalition partners.

Approval in principle to pursue the project was given by the National-led Coalition Government in March 1998, with an estimated cost of NZ\$236 million. Following Labour's return to power, the Minister of Defence sought direction on the future of the *Orion* Maritime Patrol Force, and whether Project *Sirius* should proceed. By this time, the costs associated with the project had more than doubled to NZ\$562.1 million.³ The Government rejected the proposal and decided not to proceed with Project *Sirius*.

This chapter explores the events that led to the initial decision to proceed with Project *Sirius*, and subsequent events that led to its cancellation. It then goes on to examine the recommendations of the *Maritime Patrol Review* of February 2001,⁴ and the decisions taken by the Labour-led Government in relation to maritime air patrol three and a half years later, to proceed with Project *Guardian*.⁵ Project *Guardian* is itself a comprehensive upgrade of systems for the *Orions*, which is similar in many respects to the original Project *Sirius*. The major elements which have had a bearing on the metamorphosis of Project *Sirius* under National into Project *Guardian* under Labour will be highlighted.

History and Background

In late 1944, the Government purchased for the Royal New Zealand Air Force (RNZAF) its first four *Short Sunderland* Mark III flying boats.⁶ These aircraft were based at Hobsonville and were used to transport freight into the South Pacific. As part of the restructuring process following the Second World War, the RNZAF in June 1953 took delivery of 16 refurbished *Short Sunderland* flying boats for maritime reconnaissance. These were assigned to No. 5 Squadron based at Lauthala Bay, Fiji, and performed a maritime reconnaissance and anti-submarine warfare role. In the Defence White Paper, *Review of Defence Policy 1961*, it was noted that the aircraft had first entered service some 25 years previously, and were now an old design.⁷ There were no suitable replacement flying boats available, and a suitable land-based aircraft was to be considered. That aircraft was to be the Lockheed P-3B *Orion*.

The Chief of Air Staff appointed in June 1962 was Air Vice Marshal Ian G. Morrison, who was to oversee the modernisation of the RNZAF. Morrison saw the three elements of the Air Force—strike capability, transport, and maritime patrol—as being of equal value, and sought improvements in aircraft in each area. He sought a replacement for the *Sunderlands* and found it in the *Orion*. Five new *Orions* were ordered in March 1964, and delivered to No. 5 Squadron at Whenuapai between September and December 1966. The cost was to be NZ£8.7 million, including support equipment. In light of the contemporary debate about Project *Sirius*, the comment on the purchase in the 1966 Defence White Paper is noteworthy:

The *Orion* is the most modern and effective surveillance and anti-submarine aircraft available anywhere, and will put the RNZAF on a basis of full compatibility with the RAAF and the United States Navy in this important role.⁸

The *Orions* proved to be a valuable asset, and over the next decade performed their surveillance role with distinction. However, by the late 1970s it was clear that their avionics suite had fallen behind recent improvements in capability overseas, and the 1978 *Defence Review* foreshadowed a progressive upgrading of capability to enhance their compatibility with allies and to improve their effectiveness.⁹

A two-phase modernisation process, Project *Rigel*, was decided upon to provide a comprehensive systems upgrade, and in July 1980 the Boeing Company was awarded a contract for Phase One of the project. Phase One included improved data systems, modernised tactical displays, and improved surveillance and navigation equipment. A significant enhancement of radar capability and night search capability was included, with a new infra-red detection system.

The first modified aircraft was completed in November 1983, and the last in May 1984.¹⁰ The total cost for the first phase was NZ\$42 million.¹¹

The 1983 *Defence Review* noted that the project was nearing completion and would provide 'a capability for surface surveillance by day or night which will be second to none'. It went on to say, though:

The need remains to improve the aircraft's ability to detect and attack submarines and to upgrade its effectiveness in electronic warfare. It is intended to undertake a second phase of the *Orion* modernisation programme for this purpose.¹²

This was not to happen however. With a change of government, the 1987 Defence White Paper spelt out the Labour Party's priorities. There was still a recognition that maritime surveillance was important, and that aircraft were required to 'provide the means for quick reaction, and for monitoring both submarine and surface activity'. The White Paper acknowledged that improved systems had been installed in the *Orions* and noted that 'improved acoustic and electronic capabilities for both the RNZN and the RNZAF will be considered'.¹³

Tenders were called for Phase Two in 1988, but the project failed to proceed when the RNZAF was unable to get a commitment from the Government for the proposal.

Project *Kestrel*

By the early 1990s the *Orions* had been in service for a quarter of a century, and were amongst some of the most intensively used aircraft of their type in the world. The fleet now consisted of six aircraft, a further aircraft having been purchased second-hand from the Royal Australian Air Force (RAAF) in 1985, at a cost NZ\$19 million. In 1993 a fatigue analysis was undertaken, which showed that the aircraft had been used to such an extent that their fatigue life index was 135 against a baseline index of 100. This was quite a remarkable figure compared with the US Navy *Orions*, most of which were retired at fatigue life indices between 60 and 80.¹⁴

By this stage it was clear that, in most circumstances, the most favoured replacement for an old *Orion* was a new one, and amongst the options reviewed was that of purchasing new aircraft. But, at a cost of NZ\$1 billion, that was unlikely.¹⁵ Other options then explored included the possible purchase of new airframes and then transferring engines and sensors from current aircraft, at an estimated cost of NZ\$600 million; refurbishing second-hand aircraft purchased from the United States; or undertaking significant structural refurbishment of the current aircraft by replacing major structural panels.¹⁶ Engineering studies were undertaken by Lockheed Martin, and these confirmed that it was possible to replace significant structural portions of the aircraft with a low engineering

risk associated with the project. Completion of the project would extend the life of the aircraft by 20 years.¹⁷

Project *Kestrel* was to be a world first, and was truly an international project. Wings, horizontal stabilisers, and engine nacelles were all to be replaced. The outer-wing panels were to be manufactured in South Korea; the horizontal stabilisers were built by British Aerosystems in the United Kingdom; and the centre wing section lower skin came from Lockheed Martin in Georgia in the United States.¹⁸ Engine nacelles were refurbished by Celsius Hawker Pacific in Australia, and the installation of components and completion of the refurbished aircraft was undertaken by Hawker Pacific in Sydney.¹⁹

Project *Kestrel* was, like Project *Rigel* a two-phase project. Unlike Project *Rigel*, *Kestrel* was completed on time and on budget, with a total cost of less than NZ\$100 million—one tenth of the cost of new aircraft. Work had begun on the re-integration phase on the first aircraft in November 1997, and the final aircraft returned to RNZAF service on 21 August 2001. The Air Component Commander at the time, Air Commodore John Hamilton, commented:

The concept is complex but has been built on the knowledge, innovation, skills and abilities of Air Force engineering personnel—engineering and design skills that were not readily available offshore except in the aircraft’s original design office. It exemplifies what can be done by New Zealanders with the right background and opportunities.

No-one, not even Lockheed Martin, had ever re-winged a P-5B *Orion* with P-5C wings, the only ones now available new. The RNZAF project team worked with Lockheed Martin to develop the interface design and the reassembly protocol, and the project was a complete success. Air Commodore John Hamilton added:

It has given the Air Force a significant extension in the life of the *Orion* fleet at a reasonable cost. The *Orion* is now well placed to take on upgraded sensors and equipment which will allow them to serve New Zealand’s interests for another 20 years.²⁰

Updating sensors and avionics equipment had never been completed under Project *Rigel*. This deficit was intended to be rectified by the implementation of Project *Sirius*.

Project *Sirius*

The 1991 *Defence Review* called for a review of maritime surveillance capability, but the results of the policy study were classified and never released publicly.²¹

Having affirmed that ‘Self-Reliance in Partnership’ remained central to New Zealand Defence policy, the 1997 White Paper emphasised the importance of

maintaining force capabilities which would allow New Zealand to adequately monitor and protect those areas which fell under New Zealand's responsibility. The White Paper made the point that the United States 'has neither the power nor the inclination to be the sole guarantor of the region's security. It expects others to carry a proportionate share of the burden.'²² In order to maintain its share of the burden, New Zealand needed to maintain a capability for maritime surveillance from the air, and Project *Sirius* was intended to provide that capability. The latest Defence White Paper highlighted the impaired capacity of the *Orion's* tactical systems to undertake its maritime surveillance role, and noted that the deficiencies would be addressed by Project *Sirius*. The previous month, Cabinet had agreed with the Minister of Defence's recommendation that the *Orions* be equipped with updated sensors and communication suites, with a subsequent decision to be made regarding implementation.²³ The Government subsequently gave approval-in-principle for Project *Sirius* to proceed, at a Cabinet Meeting on 23 March 1998. This approval was seen by the RNZAF to be the culmination of over a decade's work, which had begun following the cancellation of Project *Rigel* in the late 1980s. In commenting on the approval, the Chief of Air Staff, Air Vice Marshal Carey Adamson said: 'Yesterday's decision was a major milestone for the project; however, a continuation of this hard work will be needed to bring SIRIUS to a successful conclusion.'²⁴ In this, he was to be proven to be correct.

The Invitation to Register (ITR), which the Ministry of Defence was to use to identify potential prime contractors, was issued on 9 October 1998. The Request for Tender was subsequently issued in February 1999, and Raytheon was chosen as the preferred prime contractor. The request for a Best and Final Offer was issued in November 1999, but by that time the Labour Party had returned to power. The Ministry was to continue working hard to try and ensure that Project *Sirius* did reach a successful conclusion; nevertheless *Sirius*, like *Rigel* before it, was not to succeed.

The Failure of Project *Sirius* and its Metamorphosis into Project *Guardian*

The Best and Final Offer price from Raytheon was indicated as being NZ\$445 million,²⁵ and the final decision on the offer was due on 28 May 2000. A briefing for the Minister of Defence was conducted in April 2000, prior to the decision going to Cabinet the following month. In the event, Raytheon extended its offer until 25 August 2000, allowing somewhat more time for the issues involved to be considered both by the Minister of Defence, Mark Burton, and by the Government.

The potential expenditure of almost half a billion dollars once more generated significant media comment. Gordon Campbell, in an article in the *New Zealand Listener* commented:

The F-16s were an easy call. In coming weeks, the Clark Government faces a tough and diplomatically fraught decision over Project *Sirius*, the hugely expensive upgrade of our six *Orion* maritime surveillance aircraft. Secrecy rules. For the last couple of years, the cost estimates for *Sirius* ... have been kept under wraps.²⁶

The Government subsequently released the *Defence Policy Framework* in June 2000. In the Introduction to the *Framework*, it was emphasised that a new approach to defence was one of the Government's major policies when it sought election. Within the new framework it was still recognised that maintaining effective maritime surveillance capabilities of the RNZAF remained one of the greatest needs. The emphasis however, was to be 'within the New Zealand EEZ [Exclusive Economic Zone] and the EEZs of Pacific Island States'.²⁷ Nevertheless Cabinet, at a meeting on 12 June 2000, did allow for consideration of Project *Sirius* before completion of the *Maritime Patrol Review*.²⁸

(e) agreed that urgent acquisitions which are fully consistent with the Government's defence policy, goals and priorities may be considered prior to the completion of the reviews referred to in paragraph (c) above.²⁹

By the time Project *Sirius* went to Cabinet for a decision in August 2000, the costs however were only too clear. In a paper to Cabinet dated 14 August 2000, the Minister of Defence proposed four possible options for the future of the *Orion* Maritime Patrol Force:

- Do nothing and lose the airborne maritime surveillance capability;
- Retain the capability, and accept the Raytheon Project *Sirius* offer at approximately NZ\$562.10 million;
- Accept a reduced capability (without a sub-surface capability) at a cost of approximately NZ\$520 million; or
- Reduce capability by equipping for civil tasks only, and invite the preparation of Terms of Reference for a new project study.³⁰

The response, noted in the Cabinet Minutes of 21 August 2000, was brief and to the point: '(b), agreed not to proceed with Project *Sirius*'.³¹

The response by Opposition parties to the announcement was swift, with both ACT and National suggesting that the Labour–Alliance Coalition was dragging New Zealand into an isolationist stance. Wayne Mapp, National's defence spokesperson, suggested that the focus on re-equipping the Army was being used as a smokescreen whilst the Air Force was downgraded, 'into some

kind of “freight service.”³² The response by the Australians was equally swift, but muted, with their Minister for Defence, John Moore, saying: ‘We understand the priorities assigned by the Government of New Zealand to upgrading the capabilities of its army ... we are disappointed though, by the New Zealand government’s decision to cancel Project *Sirius*.’³³

The United States was said to be highly concerned about the Cabinet decision on Project *Sirius*, having indicated previously that approval would be a sign that the Coalition Government was serious about regional security. However Phil Goff, Minister of Foreign Affairs and Trade, speaking on the eve of his departure to the United States, said he did not expect a cool response from the Americans over the decision. The Green Party, on the other hand, was very pleased, and gave strong support to the Government’s decision. Wayne Mapp went so far as to suggest that the Greens controlled defence policy. He commented, ‘Labour has rolled over to extreme Green isolationist views’, and added, ‘abandoning the upgrading of the *Orions* means we will no longer have proper surveillance of our region.’³⁴ However, Keith Locke was delighted to see this apparent shift away from combat capabilities. He noted that the decision would see New Zealand move away from operations such as those in the Persian Gulf with the US-led task force simply because the *Orions* would no longer have the sophisticated capability necessary to operate with US and coalition partners.³⁵

Lending weight to the notion of the abandonment of a sophisticated upgrade for the *Orions*, two days later the Prime Minister commented: ‘Anyone who argues \$560 million for the *Orions* when there is no evidence of hostile submarines in our area would have to be barking.’³⁶ Weighing up trade-offs was to be part of the remit of the *Maritime Patrol Review*.³⁷ However, Helen Clark commented on this in an article in the *RSA Review* in October 2000, saying:

Defence purchasing is hugely expensive, and there are severe limits on what the government can do without seriously affecting baseline expenditure on and capital provision for other top priorities like Health, Education and Infrastructure. The purchase of 105 armoured personnel carriers and 1853 radios for the Army represents a very significant increase in defence spending. It is not possible to accommodate that and other high priorities as well as invest in the proposed \$562 million *Orion* upgrade.³⁸

Notwithstanding the cancellation of Project *Sirius*, the Government had signalled the importance of maintaining effective aerial maritime surveillance in its *Defence Policy Framework* announced in June 2000. Defining what ‘effective’ meant was to be the task of a committee convened by the Department of the Prime Minister and Cabinet. At its meeting on 21 August, Cabinet had proposed the establishment of a special group, chaired by the Prime Minister, to include the Deputy Prime Minister, Minister of Finance, Minister of Defence, and Minister

of Fisheries, consulting with other relevant Ministers. This group was to examine how civilian requirements for maritime patrol could be best met, and whether a military maritime patrol capability should be retained at all. They were to be assisted in this task by the Officials Committee, whose report was to be completed by February 2001.

At the time of the announcement of the cancellation of Project *Sirius*, the Chief of Air Staff, Air Vice Marshal Don Hamilton, was pragmatic in his response. In an article in *Air Force News* in September 2000, he said: 'I too share your disappointment, and we must simply now take the time to absorb the Government's direction and define the new role requirement.'³⁹ The definition of the new role requirement was once more to see the conventional role of the *Orions* being questioned, with stinging criticism from a number of quarters.

Having been asked to examine whether a military maritime patrol capability should be retained, the *Review* Committee, echoing somewhat the arguments that had been put forward with regards to the air strike capability, commented:

While the *Orions* have provided military benefits in training and exercises in the 35 years that the RNZAF has operated them, the reality is that on no occasion have they been used in combat or peace keeping duties, despite a willingness and capability to use them. It is the view of the committee that New Zealand does not need to maintain a maritime patrol force that includes an anti-submarine capability. In neither the arguments we have heard in the course of our review, nor in past experience, have we found compelling evidence that such a capability is essential for national security.⁴⁰

The *Review* Committee went on to say:

If anti-submarine warfare is no longer a priority, it could be argued that there is less case for keeping the *Orions*, because ASW [anti-submarine warfare] is the main thing they did markedly better than the alternatives. We already own the *Orions* however, and the Air Force has accumulated considerable expertise in their use. If the government wanted to retain them for their long distance and long endurance capabilities, our assessment is that they could be upgraded to do local tasks, civilian and military, perfectly well at a modest cost per aircraft.⁴¹

The Government's *Defence Policy Framework* had also clearly spelt out the Government's defence policy objectives and these were:

- to defend New Zealand and to protect its people, land, territorial waters, EEZ, natural resources and critical infrastructure;
- to meet New Zealand's alliance commitments to Australia by maintaining a close defence partnership in pursuit of common security interests;

- to assist in the maintenance of security in the South Pacific and to provide assistance to New Zealand's Pacific neighbours;
- to play an appropriate role in the maintenance of security in the Asia–Pacific region, including meeting New Zealand's obligations as a member of the Five Power Defence Arrangements (FPDA); and
- to contribute to global security and peacekeeping through participation in the full range of UN and other appropriate multilateral peace support and humanitarian relief operations.⁴²

However, in the somewhat benign environment of late 2000 and early 2001, the *Maritime Patrol Review*, in reviewing the need for Military Maritime Patrol Capabilities (MMPC), sought to concentrate on only the first four of the five stated Government policy objectives. The *Review* effectively dismissed any future global role for the *Orions*, with their observation that the *Orions* had never been used in combat or peacekeeping duties, and their recommendation that the maritime patrol force did not need an ASW capability.⁴³ When it came to anti-submarine capabilities, the Prime Minister was not convinced either: 'We would be most unlikely to spend on the anti-submarine warfare capability', she said in March, following the release of the *Review*. 'We were being asked to spend more than half a billion dollars to spot vessels which aren't there and haven't been found to be there in the entire time we've been trying to spot them.'⁴⁴

There was a very real threat to the future of the *Orions* contained within the *Maritime Patrol Review*. The *Review* Committee noted that savings of the order of NZ\$40-60 million could be made annually if the *Orions* were disposed of, though they did acknowledge this might mean buying more C-130 *Hercules* to take over the role. The committee found that, overall, a ten-fold increase in aerial patrol was necessary to fulfil civil surveillance needs, but that much of this extra effort was needed to cover mid-range contingencies, and suggested either the use of commercial services, or using RNZAF *King Air* aircraft in conjunction with pilot training. For long distance surveillance they suggested two options also:

- retain some *Orions* as the long range aircraft for SAR [search and rescue] and distant surveillance purposes; or
- utilise C-130s which have comparable capabilities (in range etc) by fitting new sensors to some or all five aircraft in the RNZAF. This could require the purchase of additional C-130 capacity, depending on whether the Government wants to increase its South Pacific operations.⁴⁵

The following month the Minister of Defence responded to the *Review*, in a paper to the Cabinet Policy Committee, *Sustainable Capability Plan for the New Zealand Defence Force*. In this paper the Minister noted that NZ\$100 million had

been spent on Project *Kestrel*, providing an effective aircraft for a further 20 years, and that it made no sense to look at alternatives. Everyone though agreed that the sensors on the *Orions* needed to be replaced, but the capability that would have been offered by Project *Sirius* was not required. The Minister recommended instead: '65.7.2—A limited upgrade for the *Orions* be progressively implemented with priority given to those systems that would give them an appropriate and affordable suite of sensors to perform these tasks.'⁴⁶

Cabinet agreed, almost. The Minutes of the meeting of 2 April 2001 record the decision as follows: '1.7.2—A limited upgrade for the *Orions*, using good quality commercial systems wherever possible be progressively implemented, with priority given to those systems that will give them an appropriate and affordable suite of sensors to perform these tasks.'⁴⁷

The Government, however, was yet to define what 'good quality commercial systems' actually meant.

Before the recommendations to equip the *Orions* with commercial surveillance equipment could be implemented, however, international circumstances were to change. On 11 September 2001, nine months after the *Review* was published, the world we live in was to change. The destruction of the twin towers of the New York World Trade Center, and the attack on the Pentagon in Arlington, VA, was to help define a new focus for the Western alliance. The 'war on terror' was about to commence, and as US President George W. Bush said so clearly in November 2001: 'A coalition partner must do more than just express sympathy; a coalition partner must perform ... all nations, if they want to fight terror, must do something.' To underscore the importance of the message, Bush added what were to become immortal words: 'Over time, it's going to be important for nations to know they will be held accountable for inactivity. You are either with us or against us in the fight against terror.'⁴⁸

On this occasion New Zealand was with the United States, and was to make a substantial contribution to the 'war on terror'.

In May 2002 a proposal for a NZ\$390 million upgrade was to have gone before Cabinet, but the Prime Minister was said to have asked officials to come back with a less expensive option saying 'officials beaver away, but the Government is not going to tolerate a reinvention of *Sirius* under another name'.⁴⁹

During 2002, however, the Government's attitude towards the Project began to change. As the nature of the upgrade was investigated further, politicians who had originally opposed the upgrade came to see its wider utility:

As we told them what was needed to meet the Government's requirements, although there was no requirement for an ASW upgrade, almost every other piece of equipment to be upgraded met a clearly identified need. What distinguished Project *Guardian* from *Sirius* was

the amount of consultation undertaken. So many agencies had an interest, and so many agencies wanted the upgrade. Project *Guardian* was very much tailored to a whole of government solution.⁵⁰

Ultimately the predicted costs in the *Defence Long-Term Development Plan* published in June 2002 were set at NZ\$150–220 million for the Missions Systems Upgrade, with a share of a further NZ\$320 million for the Communications and Navigations Systems Upgrade, for a total of 11 *Orions* and *Hercules*.⁵¹

In November 2002 the Government announced its intention to send *Hercules* and *Orion* aircraft to Afghanistan and the Persian Gulf to join Operation *Enduring Freedom*.⁵² The country's response to, and willingness to be involved in, the 'war on terror', as well as a growing recognition of security needs close to home, clearly reinforced the need for an airborne surveillance facility of significant ability.

That same month, with officials having continued to beaver away, the Minister of Defence put forward a proposal for approval to go to tender for the *Orions'* Mission Systems Upgrade and Communication and Navigation Systems Upgrade.⁵³ In this paper the Minister put forward three options for the Mission Systems Upgrade. In the attached *Defence Long-Term Development Plan Update*, the Minister noted that, because of the differences in requirements for the *Orions* and the *Hercules* Communications and Navigation Systems upgrade, the projects had been de-coupled, and significant savings could be made on the *Orion* upgrade.⁵⁴ Approval to go to tender was given at a Cabinet meeting on 11 December 2002, and the Minister said that the cost of the upgrade would probably be in excess of NZ\$300 million, and that tender costs would go to Cabinet at the end of 2003.

It was in fact January 2004 when the preferred tenderer was chosen, and August 2004 when Government approval to negotiate was given. On 5 October 2004 a contract for NZ\$352 million was signed for the upgrade package. In a background paper attached to the media statement announcing the signing of the *Orion* upgrade, the Labour-led Government's goals and objectives were spelt out:

The *Orions* play an important part in the surveillance of New Zealand's Exclusive Economic Zone (EEZ) and surrounding waters, the Southern Ocean and the Ross Sea. The aircraft are also used to meet our South Pacific search and rescue obligations and assisting with EEZ surveillance. The *Orions* can also contribute to regional and global security, such as their recently completed deployment to the Arabian Sea area in support of the international campaign against terrorism.⁵⁵

Without any change in the *Government Defence Statement*,⁵⁶ the interpretation of what was needed to meet the Government's goals and objectives had moved

significantly from what had been signalled in the *Maritime Patrol Review*—an aircraft which ‘could be upgraded to do local tasks, civilian and military, at a modest cost per aircraft’.⁵⁷ What the Government clearly signalled when the new upgrade contract was signed was a move to a level of sophistication and capability, albeit without an upgraded ASW capability, that had been sought under Project *Sirius*. As the Minister explained:

The *Orions* will have a similar suite of sensors to the maritime patrol craft operated by our main security partners. They will also have a range of communication systems capable of sharing information with other forces. These capabilities will ensure that the aircraft are fully inter-operable and able to work closely with our security partners.⁵⁸

The Minister continued:

Maritime patrol aircraft, such as the *Orion*, have traditionally been used primarily to conduct maritime surveillance operations. It is now increasingly regarded as a multi-role aircraft. Once upgraded its ability to support both maritime and land operations will significantly enhance the NZDF’s ability to achieve a range of policy objectives.⁵⁹

Wing Commander John Lovatt, the Commanding Officer of No. 5 Squadron clarified some of the new capabilities in an article in *Air Force News*:

Increasingly we can expect to see the P-3 providing support to new and emerging security threats, in particular transnational crime (including illegal immigration, drug trafficking, and smuggling of endangered species), the exploitation of natural resources and terrorism. ... The *Orion* will evolve from a maritime patrol aircraft into a multi-mission platform that is able to effectively conduct, coordinate and participate in both our traditional roles and evolving surveillance and reconnaissance operations, spanning maritime, littoral, and overland environments.⁶⁰

The *Orions* in Action

Although the *Maritime Patrol Review* had emphasised that on no occasion over a 35-year period had the *Orions* been used for combat or peacekeeping duties, all that was to change given the events subsequent to the terrorist attacks of 11 September 2001. Following the Government’s announcement in November 2002 that RNZAF aircraft would participate in Operation *Enduring Freedom*, the first rotation of the P-3K *Orions* left on 11 May 2003. The deployment of an *Orion* to the Persian Gulf on Operation *Troy* provided the RNZAF with another opportunity to demonstrate Kiwi ingenuity. The *Orion* required some major upgrades to allow it to work in a coalition environment. Most notable were the Link 11 communications system which was borrowed from a frigate; an FF 9000

high frequency radio; a satellite phone for transmission of digital imagery; and what was described as 'other specialist mission equipment'.⁶¹

Initially the deployment was to have been for a period of six months, but it was so successful that on 13 October 2003 the Government announced that the deployment would be extended by three months. Four air crew rotations and three support crew rotations were deployed throughout the nine months of the mission, providing significant experience for No. 5 Squadron in a demanding environment. Over the first five month period since initial deployment, No. 5 Squadron had flown over 600 hours and over 90 sorties, prompting the Minister of Defence, Mark Burton, to comment that the level of operational tempo had impressed Coalition partners. Indicating not only a change in the world situation but also in geographical priorities and New Zealand's role in the world, the Minister added: 'New Zealand is committed to working closely with others globally to counter the continuing threat of terrorism to international security and the extension of this deployment illustrates that commitment.'⁶²

The Upgrade

The National-led Government of the late 1990s was very clear that it wanted an *Orion* that could undertake both tasks to protect New Zealand's sovereignty and surface and sub-surface tasks in a collective endeavour with other forces. In 1996 the Ministry of Defence awarded a contract for a Project Definition Study to the US firm Boeing. According to Boeing, the purpose of the study was to obtain an independent assessment of what would be needed for an *Orion* upgrade, based upon evaluation of a number of equipment and system options. This was to take into account an analysis of operational scenarios. Project *Sirius* was the outcome.

Some three years later Boeing was amongst the contenders for Project *Sirius*, when the Request for Tender was called for in March 1999. At this point the defence contractor DaimlerChrysler Aerospace (DASA) pulled out; Lockheed's proposal was unacceptable and Boeing and Raytheon were left as serious bidders. Both were said to have tendered in the NZ\$650–\$700 million range.⁶³ Raytheon had in fact offered a trimmed-down version at NZ\$450 million, but (as stated in the Introduction to this chapter) the price quoted at the time the Labour Government rejected the deal was NZ\$562.1 million.

Wing Commander Carl Nixon, subsequently Commanding Officer of No. 5 Squadron, was a member of the Project *Sirius* team at the time tenders were called for, and in discussing the project said: 'I am very proud that back in the late 1990s, the Air Force was part of re-defining acquisition processes to acquire capabilities by defining outputs functionally, rather than specifying equipment directly.'⁶⁴

The Key Capabilities were spelt out in a briefing to the Minister of Defence in July 2000. The capabilities included:

- Data Management Function (DMF);
- Radar;
- Electronic Surveillance Measures (ESM);
- Electro-optics;
- Acoustics;
- Magnetic Anomaly Detection;
- Communications;
- Navigation; and
- Mission Support.⁶⁵

No equipment was specified in the briefing, but Nicky Hager provided details that same month, although he did not quote a source for the information. Details were as follows:

- Surveillance Radar—Elta EL/-2022 (version 3);
- Signals intelligence equipment (Electronic Surveillance Measures)—Elta EL/M 8300 system;
- Infra-red electro-optical system: Super Star SAFIRE system, made by FLIR Systems Inc.;
- Anti-submarine acoustic processor: CDC UYS-970 (capable of processing data from 32 sonobuoys), made by Computing Devices Canada Ltd; and
- Magnetic Anomaly Detector (MAD): CAE ASQ-504 made by CAE Electronics Ltd, Canada.⁶⁶

In a briefing to the Minister some three months previously in April 2000, the point was made that, without the ability to detect, track and deal with anti-surface threats, the *Orion* would only be able to make a limited contribution to a combined force. (This same paper clearly stated that Project *Sirius* was fully equivalent to Australian capabilities.) Nevertheless, with the Government's antipathy towards anti-submarine capability, by the time of the July 2000 briefing the Ministry of Defence had made provisional allowance for the removal of the acoustics equipment and magnetic anomaly detector. They offered two scenarios—(1) fitted for but not with the equipment, with a saving of some NZ\$12.9 million; or (2) none of these capabilities at all, leading to a combined saving of NZ\$33.16 million, or 7 per cent of the upgrade cost.

The Labour Government was adamant about the cancellation of Project *Sirius*. However, what was clear though was that much of the capability that had been sought under Project *Sirius* was inherent in Project *Guardian*. ('It's better actually', one well-placed source commented.) The successful tenderer was L-3 IS Communications Integrated Systems (L-3), the company which, trading under its previous name of Raytheon Corporation, had been chosen as preferred

contractor for Project *Sirius*.⁶⁷ Project *Sirius* was to have cost NZ\$562.10 million (US\$236 million at the then current exchange rate of US\$0.42/NZ\$ or US\$229 million without a sub-surface capability). Project *Guardian* was agreed to in 2004 with a contract price of NZ\$352 million (US\$232 million at an exchange rate of US\$0.66/NZ\$). The sophisticated radar, the ELTA EL/M-2022 (v)3 series, which was sought for *Sirius*, is central to the upgrade. The electro-optics system, the Wescam MX-20 infra-red camera, provides a significant capability; and central to the *Orion's* developing role is a Ground Moving Target Indicator (GMTI). Handling the large volumes of information will be L-3's Integrated Data Handling System (IDHS). The result is 'an optimised platform that can operate over land and sea as well as providing air-to-air surveillance'.⁶⁸

With the signing of the contract in October 2004, the Project *Guardian* upgrade began in 2005 with the installation of the electro-optics system as a first stage. The full upgrade was started on the first aircraft in 2006 at L-3's base in Texas, with system proving, testing and completion to be undertaken by 2009. The remaining five aircraft are to be modified by Safe Air Ltd in Blenheim, to be delivered by 2011.

Summary

Whilst bureaucratic politics and political influence had a part to play during the decision-making processes of both National and Labour-led Governments, trade-offs and judgement of utility and acceptable risks were increasingly significant elements for both Governments as they struggled to modernise New Zealand's defence forces. For example, shortly after Labour was elected to lead the Government in 1999, they proceeded with a number of policy reviews, the *Maritime Patrol Review* being amongst them.⁶⁹ In considering the judgement of utility and acceptable risks, the *Review* questioned the need to retain any of the *Orions*, but recommended that if they were to be retained they should use 'good quality commercial systems wherever possible'.⁷⁰ The radical change recommended to the operational capability of the P-3K *Orion* reflected what was seen at the time as an 'incredibly benign strategic environment'.⁷¹

However, although the domestic aspects of decision-making were important, the influencing elements of (1) external sources, (2) the world situation, (3) New Zealand's role in the world, and (4) geographical priorities (an international focus) were more significant. These elements, coupled with timing, seem to have been crucial factors in the ultimate decision to proceed with the upgrade. The world situation was to change dramatically as a result of the events of 11 September 2001 and, along with it, a change to New Zealand's role in the world. Border security and EEZ protection took on new meaning in the changed security environment. Whilst domestic concerns had a part to play, ultimately it was the international situation and timing which played the most significant

roles in the decision to proceed with a sophisticated upgrading of the *Orion* aircraft.

ENDNOTES

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