A Historical Perspective on Defence Procurement - The Competition for the Replacement of the Avro Shackleton Mk.1 & 2, 1963-1966

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Royal Air Force procurement during the 1960s was dominated by several ill-fated, high profile projects, most notable of which was the BAC TSR2 aircraft. The general election in the autumn of 1964 brought Labour back into power, and with it came the cancellation of the majority of these programmes in order to provide for the continued support of the Concord [sic] airliner project during a period of economic hardship. In the midst of this came a requirement to replace the ageing Shackleton Mk.1 and 2 Maritime Patrol Aircraft (MPA) with a low cost interim aircraft, designed to last until the late 1970s. To understand the driving forces behind a MPA procurement in such a turbulent period, the political, military, economic and industrial variables are considered. By assessing the issue from these different directions it is possible to understand why an expensive, low volume, British built solution was arrived at in the form of the Hawker Siddeley Nimrod MR.1, which on the face of it represented the polar opposite to the original procurement requirement.

Introduction

The Cold War during the first half of the 1960s, saw a shift in defence focus within NATO, primarily in response to the Berlin and Cuban Missile Crises, to one of nuclear weapons as a first strike option against Soviet aggression.[1] In Britain this shift was typified by the decision by the Conservative government of MacMillan in December 1962 to purchase submarine launched Polaris nuclear weapons, thereby allowing Britain to maintain a modern independent nuclear capability in the deterrent era.[2] British defence policy was centred on three core roles; the defence of Western Europe through membership of NATO, retaining a strategic nuclear force, and maintaining a world-wide military presence to preserve peace.[3] The world-wide commitment, commonly referred to as Britain having a presence 'East of Suez', was a formidably expensive undertaking, and formed the last vestiges of Britain as an imperial power. The economic stagnation of the early 1960s, coupled with the continued threat of devaluation of the Pound, led to the realisation that Britain could not undertake these commitments alone.[4]

As a result there was an increased level of internationalism within British policy throughout these years as the Government was forced to look to both the United States and Europe for mutually beneficial co-operation. This need to win favour on both sides of the Atlantic can be seen, with regard to America, in the purchase of Polaris missiles and the subsequent aircraft and equipment orders placed with American companies under the Wilson administration.[5] In Europe, the efforts to gain French support for British entry into the European Economic Community (EEC) were seriously dented by French President De Gaulle's veto on the subject on 14 January 1963.[6] This made the Anglo-French Concord airliner programme of vital importance, for although it was barely affordable, the French Fifth Republic saw it as a matter of international prestige, and therefore in order to keep the door open to EEC membership, Britain had no choice but to support the endeavour.[7]

Whilst the question of co-operation with the French is common throughout the period, with regard to working with the Americans there were differences between the Conservative and Labour governments over the importance of supporting American foreign policy in order to retain their economic support.[8] Although it was a Conservative decision to purchase Polaris - something that Labour claimed in their 1964 manifesto that they would renegotiate - it was Labour that took up the mantle of future trans-Atlantic integration through the increased level of military equipment purchases.[9] The concept of buying American aircraft had been a sensitive subject under MacMillan following the backlash in the press over the Royal Navy's decision to replace Sea Vixen with American Phantoms rather than British P1154s.[10] That loss of the Royal Navy deal was estimated to have cost Hawker Siddeley £150m.[11] Yet despite this, after the General Election there was a greater willingness to forgo the needs of British industry and buy equipment off the shelf from America, particularly if it carried the twin benefits of diplomatic advantage and economic rationalisation.

This growing financial and technological need for interdependence between Britain and other nations was evident within the Maritime Patrol Aircraft (MPA) field, as attempts were made

with both Canada and France to establish a working arrangement that would not only be beneficial militarily, but also economically, and serve as a springboard for the domestic aviation industry.[12] This was all at a time when it was accepted by the Ministry of Defence that world-wide, up until 1975, the submarine threat would predominantly come from conventional diesel powered boats,[13] and that nuclear powered submarines were effectively undetectable.[14] The concern was that there was a definite need for a step up in research and development into vital new Anti-Submarine Warfare (ASW) technologies, rather than the purchase of new airframes in the short term, and the Royal Air Force considered that international co-operation was the best way of achieving this breakthrough.[15] The apparent invulnerability offered by nuclear submarines was a major consideration in the British decision to transfer the delivery of nuclear weapons from the Royal Air Force's V-Force to the Navy's submarines, and this belief resulted in MPA procurement not focusing on the issue of protecting the deterrent during the 1960s.[16] This difficultly of detecting nuclear submarines gave the Polaris fleet the ability to evade surprise attacks, offer a second strike capability, and gain flexibility of positioning of the delivery vehicle outside of Britain.[17] The matter of replacing the ageing Shackleton force instead rested on whether an aircraft could be procured that was not only economically viable, but also represented a technological leap forward.

In order to achieve this economic value, both overseas and domestic offerings were considered, and ultimately the Labour government decided in early 1965 to procure the British H.S.801 maritime Comet, designated Nimrod MR.1.[18] In the light of the priorities of interdependence and financial prudence, the Nimrod programme is almost unique in being a British programme that appeared to counter the broad Labour policy of buying foreign aircraft, and equally uniquely saw financial saving during production.[19] The factors that need to be considered in understanding this decision are centred on why the attempts to purchase the French led NATO MPA, the Atlantic, were unsuccessful, and how much influence the British aviation industry and the Ministry of Aviation (MoA) were able to exert on this process. The Nimrod was not the only British proposal tabled during this procurement, and was the least technologically advanced of the domestic offerings, and as such the question arises as to what made it successful where so many others failed - both in terms of the specification on offer, and their financial viability. Finally, the political landscape of the time was highly dynamic, and the way Britain was trying to integrate with the world in the post-colonial period had a bearing on every aspect of government policy, of which MPA procurement was but one part.[20] By assessing these various areas it is possible to understand the reasoning behind such an apparently unlikely procurement.

The need for a new MPA to replace the Shackleton came to the fore in the early 1960s due to the high fatigue rates experienced across the fleet, particularly on the older Mk.2 aircraft.[21] The rapid increase in MPA tasking from the Royal Navy, in order to fulfil the role of surveillance of the Soviet Navy, had effectively worn the aircraft out.[22] This strategic shift saw a move away from the convoy protection mantra of the 1950s into one more in keeping with the new policy of deterrence, by being proactive rather than reactive in nature, the demands on the fleet

changed dramatically.[23] Although a programme of reconditioning and modernisation of both the Mk.2 and Mk.3 was underway, this would only have extended the life of the Mk.2 until 1972, thus the Royal Air Force was forced into giving it an out of service date of 1970.[24] Due to the limited advancements in submarine detection, the expectation was that the Mk.3 could remain in service until the late 1970s, thus there was an interim requirement for a cost-effective aircraft to be introduced by 1969, and which could be replaced in the late 1970s along with the Shackleton Mk.3s. This ultimate replacement would be a highly advanced aircraft built to the heavily armed and near supersonic specification laid down in AST 357.[25]

The problem of replacing the Mk.2s was identified in early 1964, and immediately there was a need for the project to be quickly authorised, as in order to make it financially viable, the Royal Air Force had to have the bulk of the expenditure fall in the period 1966-69, as 1970-73 would see the huge outlays on the TSR2, HS681 and P1154 programmes.[26] Thus a cheap off the shelf solution would have solved the issue of financial timings, and an early introduction of the type would have allowed for the final Mk.2 modernisation phase to be cancelled, saving £15m.[27] These off the shelf options were limited to two foreign aircraft, the American Lockheed Orion, and the French led NATO Breguet Atlantic.[28] The British aviation industry did propose conversions of the BAC VC10 and the Hawker Siddeley Trident, which were seen as being more technically advanced than the foreign offerings due to having been designed for AST 357. However, these aircraft were hampered by being too large, too expensive, and would take too long to enter service, the very things the Royal Air Force was desperate to avoid.[29] Thus the decision for the Ministry of Defence was not one based around which aircraft would be tactically superior, but instead which would be politically favourable and economically viable.[30]

The question of political favourability was not just an international issue, but also a domestic one. A purchase of the Orion would simply be an import of a complete aircraft and associated equipment from America, with no scope for having some of the work carried out by British industry. The Atlantic programme however, was a joint NATO project, and thus the engines were already sourced from Rolls-Royce, and the propellers from de Havilland. This workload totalled six percent of the project. However, a British buy would have resulted in an increase to ten percent on foreign orders and twenty one percent on British orders.[31] In February 1964 ACAS (OR) summed up the situation by stating that, "A further buy overseas following the Phantom is not going to be popular but might be more digestible if French rather than American and if it can be part of a package deal which will put work into British Industry."[32] It is this factor of British industry involvement that firmly swung the balance in favour of the Atlantic.

The factor of British industry carried two main benefits. Firstly, through the increased work on foreign orders for the Atlantic, revenue would have been generated that would have assisted the balance of trade, and thereby lowering the perceived unit cost of the aircraft bought by the Royal Air Force. Secondly, it could be presented to the press as Britain partaking in a

European consortium rather than the procurement simply being a foreign buy.[33] There was also a strong belief that European integration could lead to further shared defence contracts and thus increased domestic employment.[34] Although the involvement of British industry was seen as an excellent driver to gain political approval for the procurement, all such factors would ultimately come second to economic considerations. As the French were only prepared to see a maximum of twenty one percent of the Atlantic build programme transferred to Britain, it was determined that this alone was not a sufficient financial incentive to buy the aircraft.

The political line throughout the summer of 1964 was the need for a 'quid pro quo' to come from the French.[35] The preferred British option was a French purchase of the P1154 supersonic VTOL fighter, which had been turned down by the Royal Navy. With the programme struggling with the Royal Air Force as the only customer, a replacement buyer for the Navy's aircraft was given a high priority. The main stumbling block to this was the French Mirage IIIV [sic], an aircraft that fulfilled a similar role and was therefore in direct competition with the British design.[36] There were efforts made by Rolls-Royce to have their engine fitted to the Mirage IIIV, however these were rebutted by the French, who stated that the only way this could occur was if Britain purchased the fighter.[37] This is not to say that the French were completely against the concept of establishing a quid pro quo arrangement over the purchase of Atlantic. However, their proposal of a French procurement of Bloodhound surface-to-air missiles was turned down by the Ministry of Defence (MoD) as being insufficient financially.[38]

The British need for a highly lucrative incentive to justify an Atlantic purchase was what ultimately killed the project off, such that by July 1964 the Cabinet view was firmly that only a French purchase of P1154 would allow the Atlantic deal to go ahead.[39] Even with last ditch efforts to react to French interest in first the Canberra PR.9 reconnaissance variant, and then, as late as November 1964, with the possibility of a sale of the Hunter as a low level trainer as a quid pro quo for the Atlantic, failed to convince the Cabinet as to the merits of the proposal.[40]

These final efforts demonstrate both how keen the MoD was on obtaining the Atlantic, and equally how stubborn Cabinet was in refusing it. Despite the overarching desire to promote British involvement in Europe in an effort to reignite the entry bid for the EEC, it is clear that such a move would have to come at a price. What is also apparent through the detailed attempts to procure Atlantic rather than the British proposals, and the ultimate result, which was the British Nimrod, is that both the Treasury and the Ministry of Aviation held greater sway over the process than the Ministry of Defence. In the case of the Treasury this is understandable, particularly at a time of economic hardship and difficult defence procurements. The Atlantic purchase was seen by the MoD as a way of avoiding yet another difficult domestic procurement, and even though the MoA was seen as responsible for the large scale cost overruns on the other aircraft projects, they still carried a high level of influence, alongside the domestic aircraft industry. Thus their roles in general must have been a crucial factor in Britain deciding on a brand new, high cost, low volume, domestic aircraft – the very thing the MoD and arguably the Treasury were trying to avoid.

Initially the MoA had proposed conversions of the VC10 and Trident as rivals to the Atlantic and Orion, as these were aircraft that had originally been intended to meet Air Staff Target (AST) 357. The interim aircraft specification in Air Staff Requirement (ASR) 381 was written specifically for the prop-driven Atlantic rather than the domestic offerings. Thus these proposals, which as even the BAC Technical Director admitted, did not even quite meet AST 357,[41] were viewed with suspicion from within the military. Air Cdre Knott (DOR2) remarked that "there are signs that a body of opinion within MoA would force an adapted British aircraft on us at almost any price."[42] The VC10 bid was reported in *The Daily Telegraph* to cost three times that of the comparative Atlantic procurement,[43] demonstrating that financial concerns were leaked into the public domain, even though such details would have been closely guarded. The financial pressures of the time put the Atlantic as the clear favourite, but this did not stop the MoA looking at the benefits to British industry over and above the actual product to be delivered. A letter regarding the budget for an interim aircraft sent by the Assistant Under-Secretary of the MoA to his opposite number in the MoD, stated that, "This sum [£100m] would be much better spent in the British aircraft industry."[45] This was despite the fact that the most optimistic quote for the Trident programme, which was the cheapest of the British submissions, was already running at £342m.[46] The Trident programme would therefore never have been able to meet the tight budget requirements, and regardless of the socioeconomic benefits, giving the money to British Industry would be a waste for the MoD.

The delays in gaining approval for the Atlantic were seen within the MoD as having originated from within the MoA. The Chief of the Air Staff remarked to the Minister for the Royal Air Force in June 1964 that the MoA would welcome a delay that put the decision back until after the summer recess,[47] and the decision to refer the procurement to the Weapons Development Committee, at the behest of the MoA, further slowed the process, and gave British industry more time to lobby for their designs.[48] The disquiet with the actions of the other side was equally fierce on the side of the MoA and Industry. The head of Hawker Siddeley, Arnold Hall, in a meeting with the Permanent Under-Secretary to the MoD in July 1964 pushed the emotive case that unless the Government had decided "…under no circumstances would they buy British aircraft…" that he hoped the Hawker proposals would be given full consideration.[49] Not all Industry figures were as indirect with their implications in their lobbying. Sir George Edwards, the Executive Director of BAC, stated in autumn 1964 that the Government's image in the aviation industry needed a boost before the General Election, and that a purchase of the BAC 1-11 maritime variant could make it easier for the Conservatives to retain the Preston seat.[50] That the Preston South seat swung to Labour with a small majority may or may not have been due to Industry lobbying, but the intent to influence political decision making cannot be ignored.[51]

This aggressive stance taken by the MoA, on behalf of British Industry, is in contrast to that of the Ministry of Supply during the 1950s, when the Air Ministry and Ministry of Supply worked together rather than against each other. The fundamental reasoning behind this is

due to the shift in both civilian and military aircraft procurements throughout this period as American aircraft began to dominate the international stage.[52] The initial requirement for the Shackleton, issued in 1946, was for one specific aircraft design with no competition.[53] Even with the early 1950s Shackleton Mk.3 bidding, the competition was only between British firms.[54] However the ASR 381, like other Royal Air Force procurements of the time was not only open to foreign bidders, but in some cases, such as this, the overseas companies' offerings were the preferred option. The Navy's purchase of Phantom had clearly concerned the MoA and Industry. Whilst the Navy had played on the fact that there were a large number of aircraft projects underway for British industry, and therefore had hoped that the MoA would not object to a comparatively small foreign purchase for the Fleet Air Arm.[55] Although equipping the US designed Phantoms with Rolls-Royce engines helped the balance of trade, there was still concern for the MoA that in financially tough times, other procurements would go the same way.[56]

There was not only the issue of foreign competition in the military market, but the civilian market was also moving heavily towards the United States. When in March 1965, and after the selection of the Comet MR as the Shackleton Mk.2 replacement, Middle East Airlines (MEA) needed to replace their fleet of Comets, the decision was between BAC VC10s or Boeing 707s. Unless BAC could offer a suitable price to buy the old Comets from MEA, the airline would publically state that the British Government had let them down, and buy their aircraft from Boeing.[57] The issue became highly important politically to the Government's export drive and thus became one where both Transport Command and then Coastal Command were offered the MEA Comets. In the case of Transport Command it was in place of newly ordered VC10s, and this was seen as tactically unacceptable due to the smaller size and range of the Comets.[58] For Coastal Command the position was slightly more flexible, as they were prepared to accept the reconditioned aircraft provided they did not cost more than the new build aircraft.[59] The needs of Industry and overseas influence were intrinsically linked, and demonstrated the significant impact that Industry could have.

For Industry it was not just the problem of foreign competition, but also the fact that, as cuts to the defence budget took their toll, so the size and number of aircraft procurements also fell. Average production runs for military aircraft fell from 620 in 1944–1954, to 168 in the period 1955–1964.[60] The announcement by the MoA to the state controlled airlines and Industry in March 1963 that there would be no new large scale orders placed, further heightened the tension and put the emphasis on the need to compete for the overseas orders instead.[61] From a political and military perspective this transition was a reason to move away from expensive, low volume British designs, and instead to either buy foreign or join with other nations in interdependence programmes.[62] For Industry, this interdependence made sense when dealing with new fighter aircraft, such as working with the French on a light strike / trainer aircraft.[63] However, with larger aircraft based around existing civilian designs such as MPA, it was a means of extending the life of a civilian design and giving the perception of value to the Government through it being an adaptation rather than a new costly design,

but also as an opportunity for increased profitability as the majority of the expensive research and development work would have already been carried out.[64]

Whilst this may explain the continual and, in the case of Nimrod, successful lobbying by both the MoA and Industry, the question that it throws up is why the relatively late Hawker Siddeley submission of HS801 was successful where the other British proposals had failed. The decision not to procure the Atlantic was not one that could have been considered in isolation. As there was an urgent requirement for a Shackleton Mk.2 replacement the question was not whether an aircraft was needed, but which one it should be. Therefore to decide against one design was reliant on there being another to take its place.

The proposals from BAC and Hawker Siddeley for the VC10 and Trident had been based around the concept of a high specification aircraft that would last until the year 2000.[65] The Comet MR proposal was pitched in a much smarter manner and in direct contrast to the previous British proposals. The starting point for the VC10 and Tridents bids had appeared to have been one of simply reacting to an air staff target and then submitting a bid based around that, regardless of the competition, or whether it would conform to budget constraints. The opening meeting between Hawker Siddeley and the MoD where the Comet MR was proposed saw the aircraft proposed at the same price as the Atlantic - £1.5m per aircraft.[66] This was achieved by offering an aircraft with a similar equipment fit as the Shackleton Mk.3. Therefore, like the Orion and Atlantic bids, it was a direct replacement for the Shackleton, rather than an expensive upgrade. By sharing the equipment with its predecessor the delivery timescale could also be dramatically reduced.[67] This immediately put the proposal at an advantage, as the underlying theme with the Trident bid had been that it was the preferred aircraft from the perspective of the MoD, but that the cost and timescale of the project ruled it out.[68] By quoting a timescale, specification and cost similar to the Atlantic, Hawker Siddeley was able to get attention paid to their proposal, even if the difficulty of delivering it to schedule and price were still to come. In this sense the bid represented a definite shift in the aviation industry's approach to MPA procurement with the realisation that it was the Treasury that would ultimately have the casting vote on which aircraft programmes to proceed with. The price quoted did rise to £2.2m per aircraft by October 1964. However, this figure was seen as being favourable as it was offered as a fixed price contract.[69] This was highly unusual as the MoA were against fixed price contracts for non-off the shelf projects, as the normal course of events was price escalation and delays due to the unknown nature of research and development, and a fixed price would force the burden of the extra costs onto the Company. By initially offering the Comet with equipment, such as the radar, straight from the Shackleton, the main area of uncertainty was over the airframe modifications. These included the installation of an underbelly stores pannier, originally designed for the Trident project.[70] This position was further enhanced through political efforts to include penalty clauses in the contract, and demonstrated that, unlike in earlier periods, it was the Government and the military that held the upper hand in the initial contract setting requirements rather than Industry.[71]

As with any domestic offering there was desire to generate export sales and thus aid the UK balance of trade. A small amount of interest in the HS801 was expressed by both Canada and South Africa. However, Canada was predominantly turning towards the United States for its aircraft whilst also integrating its defence structure, and South Africa was not formally in a position to purchase a replacement for their Shackletons.[72] This initial interest was not however because of the specific merits of the HS801 over the VC10 and Trident, as it formed part of the general resurgent push to sell designs overseas, and was not a crucial deciding factor between the British offerings. Despite the continual attempts to push the design on the overseas market, it was never exported, and ultimately this added to the financial burden of the multiple large aircraft procurements that were underway in late 1964.

The speed with which the Maritime Comet emerged as a viable concept – the earliest reference in the Archives is from July 1964 – to it being formally announced as the preferred option for replacing the Shackleton Mk.2 in January 1965, is unusually rapid.[73] What this timeframe suggests is that Hawker Siddeley were initially focusing on the Trident bid, as the aircraft, by being a newly designed airliner, offered a greater longevity of both the combined civilian and military production line and the associated possibility of exports sales. However as the Comet proposal only surfaced after it was clear that the Government were seriously considering proceeding with the Atlantic, it would suggest that the extra time that the MoA were stalling for was so that the aviation industry could formulate a direct Atlantic rival – in terms of price and specification, whilst at the same time publically pushing the Trident and VC10 in the competition, as these would have given the greater benefits to Industry. Given the difficulties of establishing a quid pro quo over the Atlantic, the Comet was able to appear, in the words of AOC Coastal Command, as "the answer to the maiden's prayer."[74] Hawker Siddeley were able to give the impression that the Comet was a better option than the Trident when considered as an ASR 381 Atlantic rival, whereas in reality it was never in competition with its stable-mate. Instead, the issue had been over where the Comet sat in relation to the Atlantic, and it was here that lobbying by the MoA and Industry was able to bear fruit.

In theory, given that the costs between the Atlantic and Comet were broadly similar, the Comet should have been as unaffordable as the French offering was presented as being. Yet a domestic offering would always have the upper hand in the view of the Treasury, as the initial cost of the aircraft, if spent on a British design, could be effectively reduced through corporation tax, employee tax, and the benefit of these employees spending their wages within the British economy.[75] The Comet airframe itself was also in extensive Royal Air Force service at the time in Transport Command. It was therefore seen as a known quantity in terms of its handling and servicing and would not require the same expensive new ground equipment and training as the Atlantic.[76] Therefore a British offering pitched at the same price as a foreign offering could be massaged to look like much better value, and thus achieve the desired savings that would have pleased the Treasury. It was this parity of costs that gave the Comet MR the edge over the earlier British submissions in the battle with the Breguet

design, and drove the procurement question back towards a British buy rather than an off the shelf foreign purchase. The Comet, by being a four engine jet-powered design, had a faster transit speed and longer loiter time than the twin turbo-prop driven Atlantic and indeed the Shackleton that it was due to replace, thus reducing the perceived number of aircraft required to undertake the new intensive surveillance role.[77] The proposed large internal bomb-bay of the Maritime Comet combined with the internal space to add improved detection equipment as new technologies emerged, made it an excellent balance between the cost effectiveness of the Atlantic, and the size and capabilities of the Trident.[78]

This logic alone would give a strong indication as to why the Comet MR was ordered if it had been the sole major aircraft procurement of the period. However, there were three other large scale projects that were cancelled in early 1965, and it is this complex picture that demonstrated what drove the selection of a specific maritime aircraft type in a period of mass British cancellations.

The election of Labour in October 1964 marked the tipping point for the large Defence procurements of TSR2, HS681, P1154, P1127 and HS801.[79] Of these, TSR2, HS681 and P1154 had been signed off by the preceding Conservative government and development was well underway.[80] The primary issue for the incoming government was a need to make up to £800m of cuts due to a balance of payments deficit, which was threatening devaluation of the pound.[81] The easiest way to make such a large scale cut was to cancel defence projects and thus the Royal Air Force was forced to bear the brunt of these savings. Outside of military aviation, the Polaris, and Concord programmes were also put at risk, although their international nature resulted in them being the most complicated to consider cancelling. As a result of this, the political demands had to be balanced against the economic realities and the wants of the Treasury. Callaghan, as Chancellor, was in a difficult position as he was a supporter of the policy of Britain remaining committed militarily East of Suez, yet had no choice but to insist on cuts, and particularly to the TSR2, which was central to the British strategy East of Suez.[82] Wilson, Defence Secretary Healey and Foreign Secretary Gordon Walker were all considered Atlanticists, and saw the link with the United States as a vital part of Britain's make up. Thus the question of cancelling Polaris raised in the Labour manifesto was not ultimately considered. Instead, a saving was made by reducing the number of boats ordered from five to four.[83] The political effect at the heart of the deterrent allowed the Chief Scientific Advisor Solly Zuckerman to justify the decision as "the smallest subscription we need to pay to achieve these political purposes."[84]

The Concord project was also seen as a means of reducing expenditure by cancelling the prototypes and instead focusing on research and development, a move that had the support of the Americans who wanted to slow down the pace of their own supersonic airliner programme.[85] This strategy was actively pursued by the Labour government, and was communicated to the French less than two weeks after the General Election.[86] The French response was firm, and the British government were informed that any such move would lead

to damages being sought in the International Court in The Hague for £200m, negating any saving that the government had hoped to achieve.[87] For the Royal Air Force procurements the future worsened with both the Secretary of State for Economic Affairs and the Chancellor stating in January 1965 that the continuation of Concord was conditional on savings being made to the military aircraft programmes.[88] The issue was therefore ultimately over where the Government's priorities truly lay, and whether a strong nuclear deterrent could outweigh conventional forces, which had been the Conservative line.[89] By choosing Concord over British defence programmes the Labour government demonstrated that they were committed to the future of British civilian aircraft manufacture, over and above military production.[90]

As a result of this policy direction the government had to make cuts to some or all of the Royal Air Force programmes. However, in order to maintain the worldwide commitments that British strategy dictated, the costly British built designs would need to be replaced by cheaper alternatives. Due to the Polaris programme, and the ever increasing economic reliance placed on them, the United States was a natural source of alternative aircraft. The danger though was that France would see this as Britain moving away from Europe and would thus negatively impact any future British attempts at entry into the EEC.[91] This would have theoretically made a purchase of the Atlantic aircraft more appealing. However, there was a third group that Labour had to placate, and that was the British aviation industry who were about to lose a large amount of work through the cuts.

The P1154 project had already suffered through the withdrawal of the Royal Navy, and earlier checks had revealed that the aircraft it was due to replace in Royal Air Force service, the Hunter GR9, was proving more durable than had been initially anticipated.[92] The precedence set by the Naval Phantom purchase opened the door for the P1154 to be replaced by a cheaper American offering, yet by having them re-engined with Rolls-Royce Speys, British industry would still receive some work on the project.[93] With the decision to replace TSR2 and HS681 with American F-111 and C-130 respectively, there was no scope for giving Industry work to soften the blow. The economic rationale behind the two decisions was logical, as the TSR2 was well over budget, and its enormous costs held the key to the whole cuts programme.[94] With the purchase of the C-130 alongside the extra Phantoms and Polaris a deal was worked out with the United States Treasury Department that made the F-111 procurement effectively cost neutral, thereby maximising the apparent saving on TSR2 whilst still being able to project air power to the same level in the East of Suez strategic plan.[95] Any short term capability gap due to the longer delivery time of the F-111 was dismissed by Zuckerman, who advised the Prime Minister that simply by removing scenarios from governmental planning, in this case a conflict with Indonesia, the need for a capability to cover it was instantly deleted.[96] Whilst this view may hold at a theoretical level sufficiently strongly to satisfy the Treasury, it was never going to work across the broader spectrum of defence and the Soviet threat in Europe. What the comment does show is that financial considerations had primacy over military strategy, if not political ambitions, and the need to make economically driven cuts that maintained international political ties overruled all else.

The cuts left the P1127, and the Comet MR as the only British aircraft procurements to survive and to go into production. The reasoning behind the Comet MR surviving was not just a case of its role within British strategy being so vital that it could not have been cancelled, as ultimately it was only planned as an interim aircraft and there was no question of withdrawing the Shackleton Mk.3s at this stage. The TSR2, HS681 and P1154 had been authorised by the Conservative Government, thus Labour cancelling them was presented as a painful but necessary means of making good on the mistakes of the previous administration. Even the chairman of Hawker Siddeley, whose company lost out on the HS681 and P1154, reportedly put the blame on the Conservative government and their poor management of the projects.[97] With the P1127 and Comet MR having only been in development at a conceptual stage and not having been signed off by the Treasury under the Conservatives, Labour were able to put them into production as a sign that they were supporting British industry, thereby appeasing the third side of the triangle.

Healey's brief to Cabinet on 26 Jan 1965 stated that cancelling TSR2, HS681 and P1154, and replacing them with American alternatives, would save £817m over ten years. Proceeding with the Comet MR would save £28m over the same period. The limited government exposure to HS681 and P1154 made cancelling straightforward, and the P1127 and Comet MR would provide fresh work for the British aviation industry.[98] Healey reiterated this point in his autobiography where he wrote that; "Though my initial savings depended on the substitution of three American aircraft for three British, I was able to provide valuable work for the British aircraft industry by ordering the Nimrod maritime reconnaissance aircraft and… the Harrier."[99]

This explains the survival of the Comet MR from 1965 Defence Cuts, and why it was a British design that was ultimately selected. The outcome was political, and it is highly unlikely that the programme would have proceeded if it had been signed off under the Conservative government. The initial selection of Atlantic had already lost favour before the General Election. However, it would have been relatively straightforward to re-enter negotiations for it, particularly as appeasing the French over Concord was such a high priority. The pressure of Industry was therefore the paramount driving force behind the procurement as a whole, initially in a direct form through the lobbying against the Atlantic and the desire for more time to propose alternative cheaper British options, and then ultimately indirectly through the need for the Labour government to be seen to be supporting British Industry, even in a time of savage cuts. That the Maritime Comet was a more capable aircraft than the Atlantic was inconsequential, as provided it was able to satisfy the financial constraints of the Treasury, then the British option would have won through regardless. Despite this, the definite shift in the procurement landscape from British centric to open competition was clear, and the power of industry was already moving from one of controlling the aircraft type and specification, and thus having influence in military strategy, into a political sphere of supporting British trade in the face of increased foreign competition both at home and abroad.

These lessons of the power of the aviation industry in exerting influence at the political level are as true today as they were during the 1960s. The marginalisation of the wishes of the military and the importance of providing an economically beneficial proposal that achieves political targets are also now of paramount importance. This historical example would suggest that from a Royal Air Force standpoint, future procurements would be best served by first assessing what the Government is broadly looking to achieve in both the domestic and international stages within the given timeframe, and tailoring proposals to assist in meeting these objectives. At the same time the financial and economic factors have to be considered, and how any purchase can impact such areas as the balance of trade or domestic aviation industry employment. Only by careful examination of these core areas, and looking beyond purely military strategic requirements, can a proposed aircraft procurement have a reasonable chance of reaching front line service.

Notes

[1] RHS, *Harold Wilson's Cold War; the Labour Government and East-West Politics, 1964-1970* (RHS, Chippenham, 2009) p.29
[2] Fisher, N., *Harold MacMillan, A Biography* (Weidenfeld and Nicolson, London, 1982) p.303
[3] The UK National Archive [TNA] CAB 129/120, *Defence White Paper*, 9 Feb 1965 and TNA CAB 128/39, *Cabinet meeting minutes of Thursday 26 November 1964*
[4] Wyn Rees, G., *Brothers in Arms: Anglo-American defence co-operation* in Ed. Gorst, A., Johnman, L., & Scott Lucas, W., *Post-War Britain, 1945-64, Themes and Perspectives* (Pinter, London,1989) p.205
[5] TNA PREM 13/716, Telegram from BDS Washington [Armstrong] to MoD [Cooper], 4 Jan 1966, detailing British military purchases from the United States totally £1,800m
[6] Butler, D.E. & King, A., *The British General Election of 1964* (MacMillan, London, 1965) p.18
[7] Feldman, E.J., *Concorde and Dissent; Explaining High Technology Project Failures in Britain and France* (Cambridge University Press, Cambridge, 1985) p.88 – The British spelling of '*Concord*', rather than the French '*Concorde*' was used in British government documentation of the time, and has therefore been used throughout this article.
[8] Wilson, C., "Rhetoric, reality and dissent: The Vietnam policy of the British Labour Government, 1964-1970" *The Social Science Journal*, Vol.23, No.1 (1986) p.18 and p.28
[9] Butler & King, *British General Election 1964* (London, 1965) p.130
[10] TNA AIR 2/17197, *Interim Shackleton Replacement* (ASR 381), Loose Minute from PS. to DCAS to ACAS (OR), *Shackleton Replacement*, 11 Feb 1964
[11] TNA AIR 2/17199, *Interim Shackleton Replacement* (ASR 381) – Policy, MacPherson, A., "Missile Blow", *Daily Mail*, 17 Aug 1964
[12] TNA AIR 2/17265, *Maritime Reconnaissance Aircraft – Shackleton Replacement, Type Requirements – AST/OR 350/357*, Letter from Solly-Flood, Dept of Defence Production [Canada] to Haviland, Ministry of Aviation, 9 Apr 1964 and TNA AIR 2/16777, Loose Minute from DCAS to Secretary of State, 27 Mar 1963
[13] TNA AIR 2/16777, *Maritime Reconnaissance Aircraft – Shackleton Replacement*, Type Requirements, Loose Minute from DCAS to Secretary of State, 27 Mar 1963

[14] TNA AIR 2/16777, Loose Minute from Secretary of State for Defence to Minister of Aviation, *Submarine Detection Methods*, 6 May 1963
[15] TNA AIR 2/16777, Letter from Canadian CAS [AM Dunlop] to Royal Air Force CAS [MRAF Pike], 22 May 1963
[16] The ability of an airborne platform to ensure that the deterrent-armed submarines were not followed by Russian submarines when transiting to or from port, became a key role for MPA as the Cold War progressed. See Cm2550, *Statement on the Defence Estimates 1994* (HMSO, London, 1994)
[17] Pierre, A.J., *Nuclear Politics, the British Experience with an Independent Strategic Force 1939-1970* (Oxford University Press, London, 1972) p.200 and TNA CAB 164/713, *Deployment of UK Polaris Submarines*, Letter from Reid to Wright (Cabinet) ref. O.PD.(O)(66)2, *United Kingdom Nuclear Policy*, 13 Feb 1966
[18] TNA AIR 2/171200, *Interim Shackleton Replacement (ASR 381)* – Policy, Loose Minute from Treasury [Hall] to MoA [Airey], *Comet MR*, 14 May 1965
[19] TNA DEFE 13/286, *The Shackleton Replacement*, Handwritten Note from PS. to Under Secretary of State (Royal Air Force) to Under Secretary of State (Royal Air Force) on MO.26/11/12 [TNA DEFE 24/67, Enclosure 10], 9 May 1968, despite project costs rises of 5%, this was partly offset by a saving of £3.5m on production costs.
[20] Ferguson, N., *Empire; How Britain made the modern world* (Penguin, London, 2004) pp.358-361
[21] TNA AIR 2/171200, MoD Brief, *Comet HS801 Maritime Aircraft*, undated [est. Jan 1965] the structural integrity of the airframes were deteriorating due to high use in corrosive salty air of the Atlantic.
[22] TNA AIR 2/17199, *Interim Shackleton Replacement (ASR 381)* – Policy, Loose Minute from D. Air Plans to D. of Ops, *Flying Task of the LRME Squadron of Coastal Command*, 4 Aug 1964 – Each aircraft required an addition five flying hours per month (10%) to meet the surveillance tasking objectives.
[23] TNA AIR 2/17197, Loose Minute from D. of Ops to DGSR (A), *The Interim Shackleton Replacement*, 6 Mar 1964. Operational flying by Coastal Command rose from 260hrs in 1960 to 6000hrs in 1963 as a result of the surveillance tasking.
[24] TNA AIR 2/17197, *A Proposal for keeping Costal Command viable from 1970 until the introduction of a new aircraft to AST 357*, Feb 1964
[25] Ibid.
[26] Ibid. TSR2 –nuclear capable strike aircraft, H.S.681 – large transport aircraft, P1154 – supersonic VSTOL fighter for RN and Royal Air Force.
[27] TNA AIR 2/17197, DCAS & VCAS, *Draft Air Council Paper, the Shackleton Replacement*, undated [est. Mar 1964]
[28] When the Atlantic was upgraded by the French Navy in the 1980s it was renamed 'Atlantique'. The contemporary term 'Atlantic' is used throughout this article.
[29] TNA AIR 2/17197, DCAS & VCAS, *Draft Air Council Paper, the Shackleton Replacement*, undated [est. Mar 1964]
[30] TNA AIR 2/17198, *Interim Shackleton Replacement* (ASR 381) – Policy, Minutes of Research and Development Board, 22 Jun 1964 and Brief for Minister of Defence (Royal Air Force), *Shackleton*

Replacement, Jun 1964. Both documents state that the Trident aircraft was the preferred option on operational grounds, but accept that it was unaffordable.
[31] TNA AIR 2/17199, Letter from Messmer [French Minister of Armies] to Secretary of State for Defence, 22 Jun 1964
[32] TNA AIR 2/17197, Response to PS. to DCAS paper 690/64 by ACAS (OR), *The Shackleton Replacement*, 28 Feb 1964
[33] TNA AIR 2/17198, Brief for Minister of Defence (Royal Air Force), *Shackleton Replacement*, Jun 1964
[34] Ibid.
[35] The term 'quid pro quo' was widely used in correspondence on the Atlantic procurement, for examples see TNA DEFE 25/15, *The Shackleton Replacement*, TNA AIR 2/17198 and TNA AIR 2/17199
[36] TNA AIR 2/17199, Loose Minute from ACAS (OR) to DCAS, *Maritime Replacement*, 21 Jul 1964 – The aircraft name is Mirage III (Roman numerals) 'V' (alphabetic) variant, there were also IIIC and IIIT among others.
[37] TNA AIR 2/17197, Loose Minute from DOR (B) to PS. to DCAS, *Anglo-French Collaboration*, 14 Feb 1964
[38] See TNA AIR 2/17198, Loose Minute from ACAS (OR) to Dep. Sec. C/MoA, *The Atlantic 'Quid Pro Quo'*, 22 Jun 1964 – for the offer, and TNA AIR 2/17199, Loose Minute from ACAS (OR) to DCAS, *Maritime Replacement*, 21 Jul 1964 – for the refusal.
[39] TNA DEFE 25/15, Notes on Defence Council Meeting 16 Jul 1964, prepared by Gp Capt Trotman, *Shackleton 2 Replacement*, 21 Sept 1964
[40] TNA AIR 2/17199, Loose Minute from DOR2 (Royal Air Force) to PS. to DCAS, *French Interest in Canberra PR9*, 11 Aug 1964, and TNA AIR 2/17199, Cypher Signal, British Air Attaché (Paris) to ACAS (OR), 10 Nov 1964
[41] TNA AIR 2/17197, Letter from E.E. Marshall (BAC) to DGSR(A), VC10 *as Interim Replacement for the Shackleton Reconnaissance Aircraft*, 2 Mar 1964
[42] TNA AIR 2/17197, Loose Minute DOR (B) to S.6, *Shackleton Interim Replacement*, 10 Mar 1964
[43] TNA AIR 2/17197, Daily Telegraph Air Correspondent, "Royal Air Force Wants 50 Foreign Patrol Planes", *Daily Telegraph*, 14 May 1964
[44] TNA AIR 2/17197, Loose Minute DOR (B) to PS. to DCAS, *Anglo-French Collaboration*, 14 Feb 1964 – estimated the unit cost of Atlantic at £1.14m, the VC-10 conversion unit cost excluding R&D was put at £3.5m – AIR 2/17197 Loose Minute DOR2 to S.6, *Shackleton Interim Replacement*, 10 Mar 1964
[45] TNA AIR 2/17198, Letter from Bullock [MoA] to Cooper [MoD], *Shackleton Replacement*, 25 May 64
[46] TNA AIR 2/17197, Loose Minute, Cooper to PS. to Minister [Royal Air Force], *The Shackleton*, 8 May 1964
[47] TNA AIR 2/17198, Loose Minute, CAS to Minister [Royal Air Force], *Shackleton 2 Replacement*, 24 Jun 1964
[48] TNA AIR 2/17198, DOR2 prepared summary to [Shackleton Interim Replacement] Report, 17 Jun 1964

[49] TNA AIR 2/17199, Letter from PUS MoD [H. Hardman] to PS MoA [R. Way], 7 Jul 1964
[50] TNA AIR 2/17199, Loose Minute from ACAS (OR) to VCAS, *The Shackleton Replacement*, 2 Sept 1964
[51] Butler & King, *British General Election 1964* (London, 1965) p.322
[52] Cm2853 *Report of the Inquiry into the Aircraft Industry* (HMSO, London, 1965) p.11
[53] TNA AVIA 15/3900, Loose Minute from RDT.2(d) to F.2(a), *Requisition of Lincoln Aircraft/E2/6/45 Lincoln MR Aircraft*, 30 Jun 1946
[54] TNA AIR 2/12101, Comparative Study of the Bristol 175 and AVRO 719 in the long range Maritime Reconnaissance Role, May 1952
[55] TNA ADM 1/29055, *Replacement of Sea Vixen by F4J Version of the Phantom*, Minutes of meeting between First Lord of the Admiralty and Minister of Aviation, 24 Jan 1964
[56] Mottershead, P, 'Industrial Policy' in Ed. Blackaby, F.T., *British Economic Policy 1960-74* (Cambridge University Press, Cambridge, 1978) p.453
[57] TNA AIR 2/171200, Loose Minute, PS. to Parliamentary Secretary MoA to PS to Minister (Royal Air Force), 26 Mar 1965
[58] TNA AIR 2/171200, Loose Minute, ACAS (Pol) to PS. to Under Secretary of State (Royal Air Force), *Middle East Airlines Comets*, 26 Mar 1965
[59] TNA AIR 2/171200, Loose Minute from DCAS to DCA (Royal Air Force), *Middle East Air Line* [sic] Comets, 19 Mar 1965
[60] Hartley, K., "The United Kingdom Military Aircraft Market" *Yorkshire Bulletin of Economic and Social Research,* Vol.19, No.1 (May, 1967) p.18
[61] Mottershead, P, 'Industrial Policy' in Ed. Blackaby, F.T., *British Economic Policy 1960-74* (Cambridge University Press, Cambridge, 1978) p.453
[62] TNA AIR 2/17198, Note by Minister of Defence (Royal Air Force), *Defence Council; the Shackleton 2 Replacement*, undated [est. Jul 1964] and TNA AIR 2/16777, Brief for Secretary of State by S.6, 12 Jul 1963
[63] TNA AIR 2/17197, Loose Minute from DOR (B) to PS. to DCAS, *Anglo-French Collaboration*, 14 Feb 1964
[64] TNA T 225/1405, *NATO Maritime Patrol Aircraft*, Letter from Padmore to Bligh [Treasury], *Conversion of DC7 aircraft for use on Maritime Patrol*, 16 Dec 1958
[65] TNA AIR 2/17198, Brief by D.D.Ops (M) to 'Director', *The Shackleton Replacement*, undated [est. Jun 1964]
[66] TNA AIR 2/17199, Letter from PUS MoD [H. Hardman] to PS MoA [R. Way], 7 Jul 1964
[67] Ibid.
[68] TNA AIR 2/17198, Brief for Minister of Defence (Royal Air Force), Shackleton Replacement, Jun 1964
[69] TNA AIR 2/17199, Minutes of Meeting held between MoD and MoA, *Shackleton Replacement*, 27 Oct 1964
[70] TNA AIR 2/17200, Brief on Comet HS801 Maritime Aircraft, undated [est. Jan 1965]
[71] TNA AIR 2/17199, Presentation by Coastal Command and DOR2 (Royal Air Force) to Minister of Defence (Royal Air Force), *Future ASW*, 20 Nov 1964
[72] TNA AIR 2/17200, Loose Minute from Royal Air Force RIO at CFHQ to OR37, *Maritime Aircraft*

Replacement – HS801, 7 Jul 1965, Report by Royal Air Force Requirements, *Present Influences Affecting the Formation of a Canadian ASW Policy*, 14 Dec 1964, and TNA AIR 2/17265, Loose Minute from D.D.Ops (M) (Royal Air Force) to DOR2 (Royal Air Force), *South African Interest in Shackleton Replacement*, 30 Sept 1964

[73] TNA AIR 2/17199, Letter from PUS MoD [H. Hardman] to PS MoA [R. Way], 7 Jul 1964 and PREM 13/716, Minutes of Prime Minister Wilson summing up OPD Meeting of 29 Jan 1965, prepared by Burke, 30 Jan 1965

[74] TNA AIR 2/17199, Letter from AOC Coastal Command [Selway] to DCAS [Hartley], 31 Jul 1964

[75] Hartley, K., "Choices in Defence Expenditure" *Economic Affairs*, Vol.1, No.1, (October, 1980) p.33 and Sinclair, P.J.N., 'Public Finances' in Morris, D. (ed.) *The Economic System in the United Kingdom* (Oxford UP, Oxford, 1977) p.65

[76] TNA AIR 2/17199, Letter from AOC Coastal Command [Selway] to DCAS [Hartley], 31 Jul 1964

[77] TNA AIR 2/17200, Brief on Comet HS801 Maritime Aircraft, undated [est. Jan 1965]

[78] Staff Writer, "The Maritime Comet", *Flight International*, 25 March 1965

[79] For TSR2, H.S.681 and P1154 see endnote 27. P1127 – became the Harrier short range VSTOL fighter, H.S.801 – internal HSdesignation for Comet MR, named Nimrod MR.1 in Royal Air Force service.

[80] Butler & King, *British General Election 1964* (London, 1965) p.136

[81] RHS, *Harold Wilson's Cold War* (Chippenham, 2009) p.34

[82] Jenkins, R., *A Life at the Centre* (MacMillan, London, 1991) p.172

[83] TNA CAB 148/19, SoS (MoD) brief to Cabinet, *Polaris Submarine Building Programme*, 12 Jan 1965

[84] TNA CAB 21/5727, Defence Review 1964-65, Loose Minute from Solly Zuckerman to the Prime Minister, 14 Nov 1965

[85] TNA PREM 13/117, *1964-1965-Aircraft*, Minutes of meeting between the Foreign Secretary [Gordon Walker] and U.S. Secretary to the Treasury [Dillon], 26 Oct 1964

[86] TNA PREM 13/117, Telegram from FO London to FO office in Paris, *Future of the Anglo-French Concord Project*, 26 Oct 1964

[87] Jenkins, *A Life at the Centre* (London, 1991) p.165

[88] TNA PREM 13/117, Loose Minute from Treasury [Bancroft] to Mitchell [No.10], 7 Jan 1965, and Letter from DEA [Caulcott] to Mitchell [No.10], 14 Jan 1965

[89] Pimlot, B., *Harold Wilson* (Harper Collins, London, 1992) p.383

[90] TNA CAB 130/229, Minutes of Meeting of Ministers, Cabinet, *TSR2 Announcement*, 5 Apr 1965

[91] Young, J.W., *The Labour Governments 1964-70; Volume 2, International Policy* (Manchester UP, Manchester, 2003) P36-38

[92] TNA AIR 20/11175, *P1154 V/STOL Ground Attack / All Weather Interceptor Aircraft*, Loose Minute from VCAS to Secretary of State, *The Hunter Replacement*, 30 May 1963

[93] Healey, D., *The Time of My Life* (Politico's, London, 2006) p.272

[94] TNA PREM 13/716, Brief for Cabinet by SoS Defence [Healey], *Defence and Overseas Policy Committee – the Royal Air Force Aircraft Programme*, 26 Jan 1965

[95] TNA PREM 13/716, Telegram from BDS Washington [Armstrong] to MoD [Cooper] 4 Jan 1966, British spend on American equipment totalled $2550m (Polaris $550m, C-130 $300m, Phantom

$900m, Misc kit $50m and F-111 $750m) American spend and allowance to Britain totalled $2550m (US troops in UK up to 1977 $1800m, Misc kit $450m, export preference $300m) Therefore the F-111 purchase was cost neutral.

[96] TNA CAB 21/5729, Loose Minute from Solly Zuckerman to the Prime Minister, 14 Nov 1965

[97] Healey, *The Time of My Life* (London, 2006) p.272

[98] TNA PREM 13/716, Brief for Cabinet by SoS Defence [Healey], *Defence and Overseas Policy Committee – the Royal Air Force Aircraft Programme*, 26 Jan 1965

[99] Healey, *The Time of My Life* (London, 2006) p.274