

Britain's Nuclear Deterrent - What is it good for...?

Introduction

The genesis of this paper* was a request from a Liberal-Democrat Party activist and defence lobbyist to comment on one of the Royal United Services Institute's (RUSI) occasional papers, as part of their Nuclear Analysis Programme.¹ This led directly to reading of the relevant background material, as published by Her Majesty's Government. Although this shows that while both the Conservative and Liberal-Democratic elements agree on continuing with a nuclear deterrent, the 'Lib-Dems' are not convinced that Continuous at-Sea Deterrence (CASD) is now entirely necessary. The latter party's divergence in thought has been articulated in a published policy paper: on Non-Continuous at-Sea Deterrence (NCASD).²

With *some* understanding of the practicalities of these operations, having served in the *Polaris* programme as a youngster, I felt that more information was required and so, have sought out 'open source' material. This has been interesting, inasmuch as published works clearly show that *none* of the matters now under consideration are new. Nevertheless, even in one, written by an eminent academic that obviously had privileged access to classified data, there is a dearth of reliably accurate information on salient tactical-operational aspects of CASD.³ Although anything seemingly relating to the seagoing operations is presently still held by the Ministry of Defence (MoD), material from de-classified files on the early part of the *Polaris* programme provides enough detail to deal with at least the generalities of these tactical-operational matters.⁴ Thankfully, within three books on the underwater Cold War is a great deal of information that allows for many aspects to be tackled *far* better.⁵

While studying the political proposals it became obvious that statements of fact were, overwhelmingly, in reality nothing more than mere expressions of opinion. Of course, well-informed and balanced opinions can be trustworthy. However, depressingly often they are nothing of the kind and instead are merely dogmatic and ignorant prejudices. With this in mind, it makes sense to get to grips with these concepts philosophically, as well as technically. And, a discussion of CASD is also needed, so as to put NCASD into context.

Finally, while comments on potential implications for the United Kingdom's future possible nuclear deterrence in the event of Scotland becoming an independent state may not go amiss. There are perfectly identifiable reasons for merely touching on this conundrum, such as a Whitehall establishment determination to shut down any meaningful public debate and an overwhelming ignorance and inability of the media to think strategically. All this means that important aspects have not yet been argued about in public. This might be regarded as unfortunate, as it can be judged that the complexities are *far* greater than presently anticipated by governmental officials and academics. Although the Scottish population *narrowly* voted against full-blown independence in the recent September 2014 referendum, it was patently obvious that the nationalists would not only continue, but *intensify* their efforts to gain their aim of an independent Scotland. Therefore, it is not at all unlikely that the United

* The first version of this was researched, written and submitted in August 2014. Subsequent events have meant that some alterations have been required, although I have left predicted military scenarios overwhelmingly as originally envisaged. Additionally, international political aspects have been significantly strengthened.

Kingdom will break up within decades and this, obviously, will mean that the then government of the United Kingdom* will be forced to address the matter of nuclear deterrence.

HM Government's general ideas on Security and Defence as of 2010

In October 2010 two command papers were published by HMG on security and defence, taking in a range of subjects bordering on the bewildering. In particular, the former document⁶ comprises a tortuous mixture of pronouncements that while mind-numbingly banal are also exceedingly patronising. Nevertheless, they also betray a staggering ignorance, which is not a good starting point for *any* decision-making process. As one of many examples, in this the National Security Council was hailed as a newly-formed beacon of strategic brilliance. However, *over a century ago* a predecessor, named the Committee of Imperial Defence, was formed.⁷ Another, on reasons for the most recent western armed intervention in Afghanistan, is utterly unconvincing to anyone that has *any* understanding of past events there since the nineteenth century.⁸ As stated by a senior American army officer on asymmetric warfare, the 'side with the greater moral commitment, be it patriotic, religious, or ideological, eventually won because of higher morale, greater obstinacy, stronger national will, and the determination to survive'.⁹ This can, of course, also be seen to some degree in conventional wars. Since British and American political elites have recently shown that they have *no* grasp of this concept, especially in asymmetric struggles, perhaps they should ensure that they do not get involved in conflicts in the first place: by behaving less stridently.

Also, as financial savings are intrinsic to HMGs' stances, a word should be addressed to these. While not only shown by *this* particular government, the political class' obvious collective lack of understanding of the financial sector, along with a long-term lacklustre performance of supervisory bodies, can be said to have led, *directly*, to the British elements of the financial meltdown of 2008. This has apparently still never even been *realised*, never mind, admitted by the political establishment.¹⁰

With the general tenor of HMG thinking and expertise identified, the 'Strategic Defence and Security Review'¹¹ continued in the same vein. Far from revolutionary, as is claimed, it just looks like another exercise in the 'death' of the armed forces 'by a thousand cuts': as has occurred routinely since 1945.¹² However, even had this been done under the guise of short-term financial embarrassment, it might have been regarded as enlightened, but only *if* the government of the United Kingdom had entirely rethought its stances on 'defence' and re-made the armed forces primarily for home defence. Unfortunately, traditional attitudes have not been thrown off.

Incidentally, I am not alone in my poor opinion of the two October 2010 documents. In the same month that these appeared, the House of Commons Public Administration Select Committee came to the conclusion that modern British governments were incapable of formulating competent strategy. In August 2011 the House of Commons Defence Committee was similarly scathing of these two reviews.¹³

* This is not a typo

Conservative intentions for Continuous-at-Sea-Deterrence

As per the section on the 'Deterrent' in the published defence review of October 2010, the decision made by the past New Labour Government of March 2007 has been carried on by the 'Coalition' government. In this a CASD policy will be maintained, using submarine platforms: Ships Submersible Ballistic Nuclear (SSBNs). In order to cut costs onboard the present *Vanguard*-class boats,* it is stated that the number of Trident D-5 missiles deployed per boat was to be reduced from sixteen to eight, along with a reduction of 'warheads'.¹⁴ With fewer warheads required at sea, the stockpile is apparently to be reduced from approximately 225 to 180 over the next decade.

The *Vanguard*-class boats having been surveyed in some unknown manner, it has been determined that their service will be extended until at least the 'late 2020s', or 'early 2030s'. (This is in spite of a myriad of design faults.¹⁵) With the design of successor submarines said to have already begun; the American Trident D-5 will continue to be the delivery system; but the decision for the British-produced warheads and associated delivery systems has been said to not yet be in the offing. It should also be stated that it had not yet been decided whether three, or four of these new boats are to be built.

The justifications for retention of such a deterrent, such as in collective security, will be dealt with in context. However, at this point HMG's 'rules of engagement' should be commented upon. An 'assurance' has been given to 'non-nuclear weapon states' that have signed the Treaty on the Non Proliferation of Nuclear Weapons (NPT) that the UK will not use nuclear weapons against them. Of course, this is not *entirely* the case, as 'universal adherence and compliance with the NPT' is required. Anyway, HMG reserves the right to review this, if these states develop 'other weapons of mass destruction, for example chemical and biological'.

As the 2010 decisions were taken on the back of the New Labour 2006 white paper, it is useful to refer briefly to this. It is fascinating to see that not only was this previous government considering a three-boat programme for the successor class, they too declared that they had significantly reduced their stockpile of warheads: as per *their* earlier defence review of 1998. Also, per this document, the New Labour regime stated that it had decided to reduce the stockpile of warheads: to 160. The justifications for the deterrence were articulated better and at greater length though.¹⁶ Even so, it may have been better that one claim, on non-state terrorists, remained unstated: considering that government's past *false* claims leading up to the US-UK invasion of Iraq in 2003.

Moving on, there was a Trident Alternatives Review document of 2013 (TAR), apparently produced by officials in the Cabinet Office. The third paragraph of the executive summary states frankly that this exercise was conducted in the full knowledge that it would 'not affect' HMG's 'commitment to the Trident system'. Inherently flawed as an investigation, much of this is a defence of the Conservative viewpoint. As well as this, some areas were deemed 'beyond the scope of this review'. As might have been predicted, it was concluded that CASD was the only reliable deterrent and that NCASD was risky.¹⁷

* In naval terms all surface vessels other than some small craft are known as ships. However, submarines, whatever their displacement have always been known as boats

There are a number of assumptions made time and time again by proponents of nuclear deterrence in the western world that they expect *automatically* to be taken as fact. For instance, during the Cold War these weapons have maintained 'peace' in Europe and North America. Admittedly, Soviet armed forces did not roll across the North German Plain, as continually envisaged by western planners. However, as history cannot be rerun with variants, it is impossible to determine how events would have played out had the North Atlantic Treaty Organisation (NATO) and what is generally referred to as the Warsaw Pact not deployed vast arrays of nuclear weapons against each other.

Another is that the Cold War was a period of political and military stability, as claimed in the foreword of the National Security Strategy document of 2010. This stance cannot be regarded as having *any* veracity whatsoever, as any competent study of political-military history of this era should prove. The two named authors of this same foreword, David Cameron and Nicholas Clegg, have also gone one stage further, inasmuch as they claim that modern conditions are *far* more uncertain and complex than in the past!¹⁸ Assuming that there is *any* accuracy in their arguments and I contend that there is *not*, all this martial East-West standoff did post 1945 was to temporarily mask all the problems of the past that had never been resolved.¹⁹

Although New Labour's white paper is generally better written than this present government's pronouncements, the first of their five 'enduring principles' includes the critical admission that the '... UK's nuclear weapons are not designed for military use during conflict but instead to deter and prevent nuclear blackmail and acts of aggression against our vital interests that cannot be countered by other means'.²⁰ Apart from the lack of any definition of 'vital interests', begging many questions, this stance *entirely* undermines the point of the deterrence - in failing to stress a determination to use these weapons if subjected to a first strike.

The third of these maintains that HMG has 'deliberately' maintained 'ambiguity' in relation as to when it 'might consider the use' of these so-called assets. The last sentence of this element stated that HMG would 'not rule in our out the first use of nuclear weapons'.²¹ While this stance might be regarded as an advantage, it can be equally seen as a *severe* disadvantage. Equally as important, this particular statement also makes a mockery of the first 'enduring principle' and in itself, makes this policy pronouncement less than considered: potentially leading to adversaries drawing the conclusion that HMG's positions are nothing more than empty bluster.

The fourth relates to the 'important' part of the UK's nuclear deterrent in the collective security of NATO.²² There is a real irony in this. Although not generally known, the Conservative government of 1951 regarded atomic weapons favourably, as a cost effective way of deterring Soviet conventional forces in Eastern Europe and lobbied for their deployment - in a *first strike* capacity. It should also be mentioned that it was not until 1953, with a new Republican Government in the United States that this began to come into existence. Also, behind the US technologically, three years later this same Conservative government took the decision to develop *far* more destructive hydrogen bombs.²³ Therefore, it can be argued that rather than being innocent victims of potential Soviet aggression, NATO in general and the British in particular, can be portrayed as greatly fostering this insane arms race in the first place!

The fifth asserts strength in a supposed British political independence in the use of their SSBNs. Per this theory, this is a further 'defence' for 'UK vital interests', as neither the US, nor *France*, can necessarily be relied on to go nuclear for the UK. This, therefore, would put doubt into the minds of opposing decision-makers. Of course, if the Allies remain united, it is also claimed that independently operated 'but mutually supporting nuclear forces... create an enhanced overall deterrent effect'.²⁴ Addressing the former point, this lack of trust of the United States exhibited itself at least as early as 1955. And, contrary to a tart denial by New Labour in 2006, as early as 1956 the UK's possession of nuclear weapons merely as a symbol of international status began to be dwelt upon by British governments. Incidentally, a later Prime Minister, Sir Alec Douglas-Home, literally regarded this as entitling the UK to a place 'at the top table'.²⁵ As for the latter point introducing further doubt into enemy leaders' minds, this might be regarded simply as rhetoric: with nothing to back it up.

Finally, the second of these 'enduring principles' states that the UK will only keep the 'minimum amount of destructive power required to achieve our deterrence objectives' and then, in light of 'changes in the global security environment', outlines apparent reductions in nuclear ordnance.²⁶ Even assuming that the first of these objectives was *really* met during the Cold War, *any* reduction in capabilities might be seen as intellectually irrational.

This partial run-down is, in itself, rather undermined by what follows in this same white paper. It subsequently admits that intelligence gathering might not 'give prior warning of a possible change in intent by an existing nuclear weapon State', which is something that might be regarded as patently obvious in view of the Weapons of Mass Destruction fiasco relating to Iraq only a few years before. Other potential threats are listed, from nuclear proliferation (seemingly to less trustworthy states); failing states giving succour to 'international terrorists'; through to increased competition for natural resources due to global warming.²⁷ Quite how any of these scenarios would affect a small island group on the north-western edge of Europe is not forthcoming in this document. Even in the case of non-state terrorists gaining access to nuclear technology, at least in the foreseeable future, it is difficult to realistically envisage any use other than deploying crude 'dirty' bombs, although there are, of course, some scenarios. The UK government's possession of nuclear weapons is not in itself an answer to any of this, as apart from anything else, retaliation may result in *collective punishment*.²⁸

With two basic exceptions, the 'Coalition' government's stated published positions in the Defence Review of 2010 are essentially identical to those of New Labour four years before. The admission of Britain's SSBNs as political tools, rather than as war-fighting weapons is missing, as are the more esoteric circumstances for using these hideous weapons. Of course, with the 'get-out clauses' already mentioned, it can be seen that there would be no necessity to go into detail on the messier political possibilities.²⁹

Whether politicians and officials would rather that these matters are not discussed is immaterial - they should be.³⁰ As good a starting place as any is HMG's supposed loyalty to NATO. That Britain originally acquired the *Polaris* weapon system apparently without *any* firm ideas as to how it should be deployed, other than 'independently', is, unfortunately, only to be expected. The American government had other ideas, lobbying for a European 'multilateral fleet' comprising the UK, France and West Germany. Uneasy, the incoming Labour Government of 1964 then suggested an 'Atlantic Nuclear Force' that would have been

overwhelmingly made up of American forces, with a 'separate multilateral component' under 'international command, but with national vetoes'. Unsurprisingly, these potential schemes collapsed and commitment to NATO deployment was made.³¹

Even, or especially, in the darkest stages of the Cold War, there were all sorts of doubts as to the *use*, or otherwise, of nuclear weapons. With a glut of strategic weapons in, or targeted on Europe that would mean destruction wrought on a scale very much greater than even during the Second World War, western minds were set on getting around this unpalatable scenario. It came to be known in the NATO sphere that they had initially overestimated the Soviets' nuclear capabilities and so a shift away from strategic weapons and to conventional forces was sought. Even so, as this was costly financially, a supposed new answer was found: smaller 'tactical' weapons. However, in the final analysis NATO tacticians could not find any *realistic* ways of using these that were any more welcome to those in the areas that would be unfortunate enough to be devastated. Anyway, every likelihood remained that once tactical nuclear weapons had been detonated the automatic response would be with strategic nuclear weapons.³² Of course, this only echoed one idea by the nineteenth century strategist Karl Philipp Gottlieb von Clausewitz that war naturally degenerates towards its most violent, 'absolute' state.³³

The demise of the Warsaw Pact has not materially altered this conundrum in relation to major powers with nuclear weapons. This is unequivocal with a resurgent Imperialist Russia that is currently re-organising its armed forces and qualitatively *re-arming*. Apart from having three armies of Strategic Rocket Force Troops deploying silo and mobile launched inter-continental ballistic missiles (ICBMs), open source material points to a relatively small *modern* primary CASD programme of eight *Borei*-class SSBNs, with *Bulava* Submarine Launched Ballistic Missiles (SLBMs) that will all be in commission in the not too distant future.³⁴ This may, or may not, seem alarming, but may trigger questions on parity. If so, an opinion of Robert McNamara may surprise some proponents of nuclear deterrence. He has stated that he regarded the East and West as having equality as early as October 1962 - during the Cuban Missile Crisis! This was in spite of the US then possessing vastly more of these weapons than the Soviet Union. McNamara's reason was simple... 'No responsible political leader would expose his nation to such a catastrophe'.³⁵ In one respect this is re-assuring, particularly as senior British service officers also made their opinions known that 'under no circumstances would they have recommended that NATO initiate the use of nuclear weapons'.³⁶

So, even if *both* sides rule these monstrous weapons out on a practical basis, in the case of political-military problems between NATO or other alliances and powers such as Russia, these alliances *need* to act closely together and coherently. Judging from various border disputes involving Russia since the disintegration of the Soviet Union and especially, with the Ukraine, there is little evidence of western politicians having the skills, or inclination, to pull together. Although this once part of the Soviet Union is not yet a NATO member and has increasingly become internally troubled, past Ukrainian governments did everything required of them to become a responsible modern state. Renouncing nuclear weapons, the Tri-lateral Agreement of 1994 bound both the US and the Russian Federation in *guaranteeing the Ukraine's territorial integrity*.³⁷ Bearing in mind the feeble responses to *repeated* Russian-sponsored aggression, western-looking Ukrainians might, therefore, reasonably conclude that they have been deserted by the US and Europe.³⁸ This might and

perhaps should also worry the governments of recently joined members of NATO. Should a Russian regime begin ‘supporting’ their ethnic minorities among in the Baltic States to the degree that they have already done in Georgia and the Ukraine,³⁹ would NATO prove anything more than a paper tiger?

Of course, the nature of the Russian Federation should also be taken into consideration. After the disintegration of the Soviet Union, although a period of chaotic political instability occurred, it can be opined that there were possibilities for freedoms and democracy as understood in the ‘First World’. Unfortunately, these have disappeared into a hybrid of fascism that can be characterised as a gigantic criminal enterprise that preys on all it has power over, or contact with.⁴⁰ Even although many in positions of political and financial power in western democracies, such as Britain, have been *heavily* compromised by this evil, it does not follow that western governments should, necessarily, be entirely defenceless in the face of Russian state corruption and terrorism: both at home and abroad.

Returning to the main thrust, the official HMG line has always been that Britain’s nuclear deterrent has been ‘independent’. On a technical level, this can be seen as ridiculous and admitted as such by the then Prime Minister, Harold Wilson, as early as 1964.⁴¹

Tactically, this small ‘independent’ force is also difficult to justify rationally, even if normally part of the NATO order of battle.⁴² Incidentally, this alone rather destroys the first of New Labour’s ‘enduring principles’. Critics have also not infrequently stated that Britain’s contribution is not only paltry, when compared with that of the United States, but also pointless since their nuclear ‘umbrella’ is more than sufficient.* This is where the ‘nuclear blackmail’ argument comes in and it might be of interest for readers to know that this term was seemingly first stated in 1962 by the then Prime Minister, Harold MacMillan.⁴³

In the context of home defence, the British treatment of ‘nuclear blackmail’ would seem to be similar to the Cold War French line. This was that the Americans could not be trusted to commit mass suicide over the defence of Europe and so, it was up to the Europeans to do this for themselves: on a ‘proportional’ basis. The fatal flaw in this thinking was that if either the British, or French, mainland had even been attacked with a limited number of Soviet ‘tactical’ nuclear weapons and there had been an ‘independent’ *response*, this would have been nothing more than just another trigger for general nuclear war.⁴⁴ (It has been argued that ‘limited’ nuclear war at sea would not *necessarily* result in a general nuclear holocaust though.⁴⁵) Brought up to date, apart from a complete shattering of European organisations coupled to major offensive action by a new Imperial Russia, it is exceedingly unlikely that any European power would find itself *so* insecure as to threaten the United Kingdom in this ultra violent way. Of course, with increasing ranges of ballistic missiles, non-European adversaries *may*, in time, arise as a potential physical threat to the British Isles.

Apart from home defence, there is also the little matter of ‘vital interests’. This justification can definitely be traced back at least to the mid 1960s, with the UK’s substantial retreat from ‘East of Suez’. In the search for a role for Britain’s SSBNs that were not yet in commission, a surprising amount of effort was put into basing them in the southern hemisphere! At that time there were interests that might be seen as ‘vital’, in territories such as Hong Kong. The idea that the British would unleash nuclear weapons against China over

* Ironically, with the massive reductions in forces by the US and Russia in the 1990s, the UK’s tiny SSBN has at least arithmetically, had more importance.

this colony, even then, cannot really be taken seriously. However, there was a linked argument. This was the maintenance of a nuclear ‘umbrella’ over Commonwealth countries, in protection from both China and the Soviet Union. As India had detonated its own first atomic bomb in 1964, this ‘guarantee’ was aimed at those not suitably armed though.⁴⁶ Nothing ultimately came of these wished for projections of post-Imperial power that would, logically, have required American protection of the UK!

Exactly what would now constitute a ‘vital interest’ is perplexing. With one possible exception, it can be argued that Britain has no foreign possessions worth fighting for. Although not particularly likely, it might be envisioned that Argentina could not just conduct nuclear weapons research again, but go on to develop air-launched weapons. In the case of another failure of long-term negotiations over the Falkland Isles/Malvinas, or even another war, an Argentinean nuclear ground, or air-burst over these islands might settle the matter for a long time. Would a British response, with the much wider political and economic repercussions, really be the nuking of Buenos Aires? I think not.

‘Vital interests’, might, conceivably, be seen in substantial commercial manufacturing assets removed from western countries and relocated elsewhere, such as communist China. In the event of regional Chinese martial aggression, these ‘vital interests’ could well entirely emasculate western powers: with, or without, nuclear weapons.

Might other foreign adventures, such as in the Middle East for multifarious political and economic reasons, result in nuclear strikes? With British expeditionary force capabilities still required for the Royal Navy, varieties of post-Victorian punishment action cannot be ruled out. If this role *is* in the minds of politicians and their advisers, then they had better be *very* careful indeed! One possible adversary in this category might be Iran. Since 1979, attitudes in the English-speaking west towards this state have, overwhelmingly, been negative. The initial revolution having been moderate, it was not unforeseeable that religious zealots would rapidly attain power in the aftermath. And, for all of Tehran’s subsequent rhetoric and support of groups such as Hezbollah, in the Lebanon, these are regional concerns: political and religious.⁴⁷ Western decision makers and their advisers might spend time profitably in attempting to see events from their potential enemies’ viewpoints. After all, the English first became embroiled in Persian matters in 1622, with the unbidden appearance of East Indiamen in the Straits of Hormuz. Ever since, the English and later, the British, have been meddling in Persia.* It might also be noted that Russian interference there predated that even of the English and of course, the Americans only became involved in the twentieth century.⁴⁸

Whatever the politicians’ predilections, there has always been one severely limiting factor for Whitehall - cost. The ‘Coalition’ government is not the first, by any means, to preside over significant cuts in defence spending. For instance, under a Conservative Minister of Defence, Duncan Sandys, those of 1957 led to a greater reliance on nuclear weapons. On coming to power once again in 1979, although not official until 1981, ‘defence cuts’ that had begun under Labour and then the ‘Lib-Lab Pact’, continued under the Conservatives.⁴⁹ Also, although Labour was more interested in maintaining conventional forces, they did not run down nuclear programmes: even if the option for the fifth *Resolution*-class submarine was not taken up as of 1965. And, of course, rather than go for new *Poseidon*-armed submarines, in

* Persia came to be known internationally as Iran during the twentieth century

great secrecy, a Labour Cabinet also initiated the *Chevaline* upgrade to *Polaris* warheads in 1974. It is ironic that this seemingly cheaper solution to obsolescence proved *so* expensive.⁵⁰

In concluding this financial element, it may be stated that *if* HM Governments believe that nuclear deterrence is *utterly essential* for the survival of the state (and by some extension the population), it should be paid for in full and without complaint. Anyway, as was found by the Labour government of 1964-1970, *Polaris* was regarded as relatively inexpensive: even if the British were later asked to contribute to the development of the A3 version of the missile.⁵¹ Glitches aside, it should not be without the bounds of possibility for future British negotiators to hammer out *good value deals* with the American government and arms and equipment manufacturers.⁵² Nevertheless, it should always be borne in mind that warlike operations have always been vastly expensive, as pointed out by the ancient Chinese tactician Sun Tzu.⁵³

The acid test of all this is in the reality of maintaining the deterrence force of submarines at sea, along with its command and control systems ashore. (With little information of any value in the public domain the latter elements are not dealt with in this paper.⁵⁴) As the 'Coalition' government's stance appears to rely heavily on the earlier New Labour 2006 white paper, reference to this is salient. It states that '... the submarine on patrol is invulnerable to an attack...'. It continues in maintaining an unassailable confidence that British SSBNs have 'remained completely undetected by a hostile or potentially hostile state'. This concludes in claiming 'an assured nuclear deterrent available at all times'.⁵⁵ The Cabinet Office's 2013 *Trident Alternatives Review* is not as *uniformly* assured, although having perhaps inadvertently introduced a *few* technical and tactical aspects that complicate matters, it still states that with the four-boat *Polaris* and *Trident* squadrons, there have been *no* breaks in the operational deterrence.⁵⁶

Without confirming, or denying, *any* knowledge that I may have as to whether this is indeed factually accurate, or not, this may still be investigated. It can be seen from the 2013 document that a four-boat capability is favoured by the Cabinet Office and by inference, the Conservative element of the 'Coalition' government. It is important to mention that in all these discussions the *minimum* deterrent capability is also seen as the *maximum* to be maintained.⁵⁷ In itself this can be seen as a weakness *if* the concept of 'friction' is taken into consideration. This was von Clausewitz's term for anything and everything that can and does go wrong in war.⁵⁸ Therefore, in dealing with force sizes, it can be argued that a meaningful reserve needs to be built into the system. With such a small number of boats, the loss or gain of even one has *real* significance.

As might be expected investigations into force size have already been carried out. Originally, under the Conservatives, there were to be four *Polaris* boats, with the option of another. However, in early 1965, after further consideration, the incoming Labour government did not go for the fifth. Incidentally, there had already been doubt within the previous Conservative Cabinet as to the need for this proposed last boat.⁵⁹ Although portions of released records have been redacted, with some pages entirely missing and others chopped off mid way, it is illuminating to see drafts of a MoD minute for the Prime Minister, produced in December 1963. Part of one version reads:-

'... The effective difference between five and four submarines is as follows:-

(a) With five submarines we should be able to keep two submarines on station throughout the year with a third available at four days' notice or less and for about a month either on station or at immediate standby; thus, even if one submarine, owing to a breakdown, accident, or other cause, ceases to be operational, there would still be one submarine on station at all times to provide a valid deterrent.

(b) With four submarines, we could keep one on station at all times, except in the case of breakdown or accident, and either a second on station for 36 weeks of the year, with a third always at four days' notice for 36 weeks or less, or a second submarine at eight hours' notice for 36 weeks with the third at four days' notice or less throughout the year.

It is difficult to assess the chances of a submarine on patrol becoming non-operational, but, however remote the chance of detection by an enemy, we cannot claim complete invulnerability. Moreover, we cannot absolutely discount the possibility of a collision when entering or leaving harbour, or of some other accident.

4. It is thus arguable that, unless we order the fifth submarine, we are not providing a credible deterrent, if by that we mean an independent national deterrent as opposed to a contribution to the Western deterrent as a whole...'.⁶⁰

Thus, this extract *clearly* shows the possibility of some varieties of friction (as well as politely challenging true 'independence' without the requisite number of boats to operate the system). Of course, the former might be seen as merely scaremongering by naval officers lobbying for their own professional advantage. In reality, with tight budgets there were also shortages to contend with: such as in personnel, as is also mentioned not infrequently elsewhere in this document.

On a technical level, it is known that machinery on SSBNs *has* failed. In one instance, after refit, in 1971 *Resolution* was briefly unable to dive, due to renewed pipe flanges that were unsuitable. And, in another, in 1973 *Repulse* had a hydroplane defect that made her late for her Demonstration and Shakedown Operation (DASO)* in the US. There was also an earlier incident that reached the public domain. Embarrassingly, one of *Resolution*'s electrical generators developed a fault during her very first DASO.⁶¹ All these pale into insignificance when compared to an inherent design-fault in British nuclear reactor systems that was first identified in an SSN in 1989. According to one source, on realising that this similarly affected SSBNs, the CASD was merely 'maintained by a thread'.⁶²

Apart from this, the same source has also stated that during the 1980s there was a 'serious problem concerning the reliability of the Polaris warheads'. Apparently, this was kept from senior civil servants and not surprisingly, after this came to light there was the usual 'rancour and recrimination'. Nevertheless, the salient point is that the deterrent was said to have been in a 'parlous state'.⁶³

* Missile firing(s)

De-classified records show that the situation was *far* more complex. The motors for *Polaris* missiles had shown defects since the beginning and seemingly, there was no way of correcting these. Not only was it feared that this could have become public knowledge, there was the possibility of '100% failure rate' and so, a decision was taken in 1981 to development replacement motors.⁶⁴ The *Chevaline* system also proved to be highly problematical. Flight trials conducted in November 1980 threw up electronic circuitry failures. It would appear that these were ongoing. Instead of *Chevaline* becoming operational in the autumn of 1982 on *Revenge*, it was not until *Resolution* completed her refit the following year that this probably occurred. As for *Revenge*, apparently she did not go operational with this system until late 1987, or early 1988.⁶⁵

And, of long-term importance, refits could not be kept to their original planned dates. A briefing document in mid 1970 showed changes in routine:-

'... Each operational submarine works to an 84-day cycle, during which on average 56 days have hitherto been spent on patrol and 28 days at Faslane, while maintenance is carried out and the crews are changed. In April it was decided to reduce the average time spent on patrol in each cycle from 56 to 49 days (increasing the average inter-patrol period from 28 to 35 days) and to introduce extended inter-patrol maintenance periods for RENOWN and REVENGE in the period before REPULSE enters refit in 1971. The purpose of this less intensive use of the submarines is to conserve their nuclear cores and so create the option of keeping them operational for longer than our plans have hitherto allowed in order to cover any delays in the planned completion of the first refits of RESOLUTION and REPULSE...'.⁶⁶

Also, poor industrial relations in the dockyard at Rosyth resulted in troublesome union action. Saliently, one de-classified document states that there were to be only two boats, *Renown* and *Revenge*, in the operational cycle between May 1971 and May 1972.⁶⁷

The above shows there has been at least one period when potentially the only way that the deterrence could have been maintained was by one, or both boats alongside.⁶⁸ As far as I can determine, whether this has occurred, or not, is not apparent from de-classified documents. Even so, it should be mentioned that the possibility of a fifth-boat arose once again: in 1972. However, this was rejected by the Conservative Cabinet in November of that year.⁶⁹

With open source material it is now also possible to show that SSBNs may not *necessarily* have been as invulnerable on patrol as HMG has continually stated. In doing so, their operational ranges should be taken into consideration. With the publically stated range of *Polaris* said to have been 2,500 nautical miles and the British Cold War targets being generally if not entirely centred on Moscow,⁷⁰ it is a simple matter to use a map and a pair of compasses to determine the possible areas that these *could* operate within.⁷¹ A little common sea sense will also allow for some areas to be discarded for practical reasons. Submariners, including those of potential or actual enemy nations, will also be able to work out other elements in general terms, such as their maximum operating depths.⁷²

Potential further flexibility could have been gained from the significantly increased ranges of *Trident* D-5 missiles: from 4,000 plus to 7,000 nautical miles depending on their warhead loads.⁷³ Needless to say there are *numerous* other complexities to be taken into consideration and without reliable information on these that in any case would be exceedingly

highly classified, it is pointless speculating to any degree. Even so, the February 2009 collision of two SSBNs, the British *Vanguard* and the French *Le Triomphant*, may allow for limited analysis. One not exactly establishment commentator stated that the navies operating these weapon-systems ‘... want quiet areas, deep areas, roughly the same distance from their home ports...’. This can be regarded logical enough, even if his subsequent remarks were rather out of date.⁷⁴

New Labour’s 2006 white paper explicitly claims that the UK has ‘invulnerability’ to an enemy pre-emptive strike, by keeping one SSBN on patrol at any one time.⁷⁵ Although research was international, the development and deployment of the Americans’ underwater Sound Surveillance System (SOSUS), out of research conducted in the Second World War, gave NATO *immense* tactical advantages in tracking submarines from where it was deployed. In the defensive, not only could Soviet diesel-powered submarines (SSKs)* be detected while snorting near the surface, so too could their deeper-running SSBNs. In the offensive, as of the late 1960s the new generations of American and British nuclear-powered submarines (SSNs),** colloquially known by the British by then as ‘hunter-killers’, were deployed to seek out the Soviet SSBNs, or ‘bombers’ (as SSBNs are known by British submariners).⁷⁶ Unfortunately for the west, Soviet espionage, especially in the Walker-Whitworth ring, meant that the Soviets learned that not only were their boats unacceptably noisy, but also that they were being routinely tracked and hunted. Unsurprisingly, they responded both in reducing the SONAR signature of their submarines and also, in further developing their SSNs.⁷⁷ Although SOSUS was never infallible, or all encompassing for that matter,⁷⁸ intelligent questions might be asked as to the assumed invulnerability of past single British SSBNs on patrol.

Although SOSUS has said to have been reduced to a ‘care and maintenance basis’,⁷⁹ it is entirely reasonable to think that any present underwater surveillance systems *might* continue to track one’s own SSBNs: if only as a safety precaution.⁸⁰ However, with the ‘Coalition’ government’s scrapping of the Nimrod MR4A Maritime Patrol Aircraft programme, other than relying on other nations’ aircraft and notwithstanding the ‘Seedcorn initiative’, this confirmatory *long-range* tool is denied to the UK for the foreseeable future.⁸¹ (An incident that occurred off Western Scotland in November 2014, whereby American, Canadian and French MPA had to be used to prosecute a periscope sighting, is proof positive of the need for a British capability: *if* this country is to be regarded as martially responsible.⁸²)

The continual HMG claims of deep-ocean SSBN ‘invulnerability’ can also be challenged in other ways. In an American publication there is an admission that with the Soviet deployment of missiles with warhead Multi Independently Targetable Re-entry Vehicles (MIRVs) in the 1970s that it was possible for the Soviets ‘to barrage those US SSBNs at sea whose locations can be roughly determined’. Also, it is known that among assets, the Soviets employed their SSNs *offensively* against NATO SSBNs in deep-ocean.⁸³ That being the case, it might be thought that the Soviets had at least *some* success in their endeavours against NATO SSBNs: especially since the development of the *Akula*-class SSNs and notwithstanding their general defensive moves into deep bastions.⁸⁴ There is one known case of a *definite* contact by a Soviet submarine of an American SSBN at sea in 1967 though. It occurred in the Mediterranean and a collision ensued.⁸⁵

* SSK - Ship Submersible Konventional

** SSN - Ship Submersible Nuclear

Whether British SSBNs are invulnerable while clear of UK waters, or not, they still have to transit *to* and *from* their patrol areas. Firstly, as previously mentioned, the Royal Navy envisaged the possibility of accident. Apart from natural risks through wind and weather, there is also the potential for other accidents, such as collisions, to occur. It is, of course, patently obvious that there is *much* maritime traffic in the Clyde and *some* vessels that ply these waters are entirely capable of inadvertently crippling submarines.⁸⁶

Apart from this, as any decent Bathy-Orographical map of the UK should show, the routes between the Clyde bases and the Atlantic proper are in waters of almost entirely less than 50 fathoms (304 feet) until well out: basically to a line between Barra Head and Tory Island.⁸⁷ It is, therefore, a perfectly simple matter to imagine how these shallow depths provide potential tactical difficulties for large SSBNs in transit: especially with knowledge of SSK operations.⁸⁸ Diesel-powered submarines might be regarded in some quarters as old and smelly, but they can *still* be highly potent fighting machines: particularly with modern auxiliary Air Independent Propulsion systems. It might also be of interest to readers to learn that the first time that an *enemy* submarine operated successfully in the Clyde was in March 1915.⁸⁹ That these waters were still seen as suitable for submarine operations post Second World War, was acknowledged by Commodore Derrick George Kent RN in 1969, writing that the ‘... North Western Approaches and the Clyde Areas are admirable submarining waters; that is why we use them extensively. It follows that they are also suitable waters for enemy submarines incursion in times of tension...’. Subsequently, an anti-submarine helicopter squadron was based at Prestwick and as can be seen from de-classified records, many hundreds of hours were flown annually in support of SSBNs.⁹⁰ This was for good reason, as can be seen from detection of a Soviet SSK probably in the North Channel, or possibly even in the Clyde in 1966; a *Victor*-class SSN definitely getting into the Clyde in 1972; and a known collision between a US SSBN and a Soviet SSN *in* the North Channel in 1975.⁹¹ Also, one near collision between a Soviet Auxiliary Gatherer Intelligence and a British SSBN, *Repulse*, had already occurred in the North Channel in 1973.⁹²

Another aspect that is entirely missing from British governments’ public pronouncements relates to submarine-base defence. Originally, as had often been the case with British submarines, the *Polaris* boats were to be supported by a depot-ship. However, as of 1961, Rear-Admiral Arthur Richard Hezlet DSO and Bar, DSC, RN, as Flag Officer Submarines, lobbied for something very different in the event that the RN was to operate SSBNs and SSNs. In his proposal he stated perfectly logically that:-

‘... In spite of the great advantages of the strategic mobility of a depot ship and the cheapness of a short base, both suffer from the very serious disadvantage that they are extremely vulnerable. In an “all out” nuclear war it seem highly improbable that either would survive for long...’.⁹³

What was more, not only would any boats alongside be destroyed, boats at sea would also need to return to harbour ‘from time to time to service and replenish’. As smaller countries, naming Norway and Sweden, having already constructed secure underground rock shelter bases for their submarines, in spite of the cost, he advocated that the RN should do the same. Three potential sites were examined and although there were some geological complications, the one at Loch Glencoul (south of Cape Wrath) showed *real* promise. Of course, this base

(that if constructed, as per a diagram, would have resembled something out of the 1960s puppet show 'Stingray') never came into existence. Instead, in 1967 the base at Faslane, in the Gareloch, was commissioned as *Neptune*, along with a separate armament depot at Coulport, in Loch Long that was partly opened in 1968.⁹⁴

Although security at these bases was subsequently tightened, it is worth mentioning that this function was originally carried out merely by MoD policemen. Under strength, sometime between September 1973 and February 1974 *sixteen* Royal Marines* from 45 Commando RM were sent to Faslane as 'an interim measure'. It should be remembered that the Provisional Irish Republican Army had, by this time, begun sporadic attacks on 'soft targets' in the UK. Anyway, in spite of opposition from their senior commanders, an initial decision to have a permanent RM detachment stationed at Faslane was taken in July 1974. Seemingly within a year, this comprised 35 in total, under the command of a lieutenant RM. It should also be pointed out that it is clear from these documents that the *only* threat envisioned was from 'extremists'. *No* consideration was made for defence against determined conventional military attack: with, or without 'Special Forces'.⁹⁵

With this in mind, British governments' commitment to ensuring that the deterrent's forces have been adequately protected might be questioned. Once again, this brings to mind the ideas that this weapon system has only ever been for keeping the UK at 'the top table' politically and as for as little money as can be gotten away with.

Liberal-Democrat ideas for future Nuclear Deterrence

The Liberal-Democrats' published policy paper begins essentially quoting von Clausewitz in proclaiming that armed force is a political tool, to be used when others have failed. Unfortunately, it then cites possible public *demand* for armed action, with two scenarios mentioned: the defence of Britons abroad, or of Commonwealth states.⁹⁶ Cogent and cynical arguments can be made disputing these assertions.⁹⁷

Almost amusingly, after listing responsibilities that are merely remnants arising from Britain's imperial past and recent foreign adventures of debatable worth, it maintains that 'the UK's sense of its place in the world needs to be scaled back to reflect more realistically the resources at its disposal'. Unfortunately, it merely continues with the hackneyed orthodoxies of shared defence of the European homeland through NATO; and a *wish* to interfere elsewhere on the planet: overwhelmingly, in conjunction with the United States of America.⁹⁸

Moving on to their threat assessment, at this point in this document it is difficult to make out whether Russia is presently regarded by the Liberal-Democrats as a danger to peace, or not. It is, however, claimed that post Cold War European governments, including that of the UK, expected a 'peace dividend'.⁹⁹ *If* this reflected reality within these governments, then they collectively had and presumably still have absolutely no understanding whatever of European history and that is *deeply* worrying. For that matter western governments' disregard for the complexities of all the Middle Eastern centred conflicts would not seem to reflect unpredictability, as is claimed in this document. Instead, it might be argued that this is purely a determination *not* to take advice from those that have pertinent expertise. One strand of this

* Under the command of a 'senior' NCO, probably a sergeant

is through the work of western journalists.¹⁰⁰ Of course, there are also the writings of those of other and possibly more authentic ethnic origins and experiences.¹⁰¹

Drawing on the 2010 'National Security' exercise that the Liberal-Democrats themselves were partly responsible for, their three tiers of threats are utterly incoherent and have the appearance of a list passed around departments for additions, according to individuals' personal whims and inclinations. Also, possibly due to a state of inter-party political game-playing, a 'state-on-state nuclear attack on the UK or its Overseas Territories was relegated to the second tier'.¹⁰²

In their policy paper the Liberal-Democrats have metaphorically nailed their colours firmly to two differently-masted groups: the US and Europe. Bearing in mind the *collective* atrophy in relation to events on Russia's borders for *many* years, this might be regarded as both depressing *and* frightening. Also, since the Liberal-Democrats apparently like 'Clausewitzisms', they might like to check what this strategist (that had direct experience during the Napoleonic Wars) had to say about dealing with allies.¹⁰³

With the appearance of nineteenth century New Imperialists, a curious statement is subsequently made by the modern Liberal-Democrats. This is that the 'first priority has to be to defend the territories for which we have responsibility'. Continuing, in order to do this, as of New Labour's 1997 Strategic Defence Review (SDR) 'our national defence posture has centred on Expeditionary Forces, capable of projecting political, diplomatic and military power wherever there are threats to British overseas territories or vital UK economic and political interests'. Apart from the fact that Britain's 'overseas territories' are a disparate and sickly looking bunch of post Imperial leftovers, no definitions of these 'vital UK economic and political interests' are articulated. Nevertheless, these forces will require all sorts of exciting, expensive kit: such as aircraft carriers. Also, in cooperating with Britain's European allies, they (the Europeans) are advised in this that *they* should 'specialise' in defence.¹⁰⁴

Identical to the Conservatives' stance on the nuclear deterrence conceptually, the Liberal Democrats also state that they want the minimum level, at the cheapest price: hence, their leaning towards ending CASD. Looked at logically, their arguments are not particularly persuasive.

As previously stated, study of the Trident Alternatives Review, in 2013, might well bring readers to the conclusion that the denizens of the Cabinet Office never had any real intention of recommending anything other than CASD. In spite of the official line that the civil service is non-partisan, it may have been tactically astute of the Liberal-Democrats to have commissioned their *own* investigation that was not only *independent of government*, but also conducted by individuals with *relevant knowledge and above all, experience*.

Anyway, in trying to answer what threats there were to deter, the Liberal-Democrat policy paper assumed that a future threat would not be similar to that of the Soviet Union. This might be regarded as rash. I can think of *one* scenario where the UK having an 'independent' nuclear deterrent might, for once, actually be essential. Consider the situation that in support of its territorial expansion, a Russian government needs to neutralise *one* power in Europe. In this case, this country is the UK that unlike the rest of Europe is not susceptible to fuel blackmail: due to its mixed portfolio of energy resources. In this, with an unusually resolute leadership, the UK government is effective in keeping a faltering EU and *European* NATO focussed on denying Russia gains easily. For the sake of argument, at this time the US in particular had also become deeply bogged down in a quagmire of a multi-

faceted, extremist-controlled Middle East from the borders of Iran through to Syria, Jordan, Palestine and *Israel*.¹⁰⁵ In this the US would be unwilling to commit to backing the Europeans as heartily as it would usually do. Might not a limited nuclear strike on the UK then seem a viable option to an introverted, but arrogant and self-centred Russian leadership?

Dealing effectively with a situation such as this would task the minds even of the ablest politicians and officials. Linked to my earlier point on Iran, I would argue that *intelligent* understandings of one's adversaries' attitudes and therefore, possible real intentions, are utterly essential in *productive* political action. For instance, both a good knowledge of Russian history and enlightened analysis of current affairs would make Putin's actions presently over the Ukraine less puzzling to the west's political decision makers. Of course, this knowledge must be coupled to well-reasoned and entirely clear responses, as opposed to continual ill-thought out off-the-cuff remarks made to the media that are intended to show government officials taking action, but that merely confuse.¹⁰⁶

Continuing with the Liberal-Democrat policy paper, the pronouncements on threat-to-cost analysis are not coherent, plus, there is also a distinctly worrying mention of 'first strike' within these. It is stated that 'the costs of the UK's nuclear capability have been vast' and indeed, the figures *might* indeed look staggeringly high to the man on the jolly old Clapham omnibus. However, as the incoming Labour government of 1964 found, the then deterrent's equipment costs were then five per cent of the defence budget, with operating costs of only another two per cent. Assuming that costs are not allowed to get entirely out of control, for instance by employing *highly-competent* negotiators for deal-making with the arms manufacturers (that understand all the scams), there is no reason to think that 'good value' cannot be attained. Also, the argument made that since conventional armed forces have been cut back, it follows that the deterrence should also be is simply not credible if logic is employed. Anyway, there are other reasons for maintaining the deterrent that fall under the sphere of *domestic* politics: such as significant civilian employment of many varieties.¹⁰⁷

Earlier I mentioned that it was not clear whether the Liberal-Democrats regard Russia as a serious threat, or not. One section later there are a number of claims. The first is that the 'Cold War nuclear threat has gone'. This can be regarded as mere wishful thinking. Secondly, 'Russia could inflict chaos in Britain by cutting off the gas supply or by a cyber-attack'. Admittedly in the short term there would be dislocation of fuel supplies internationally, with some effect in the UK. Notwithstanding Britain's past high use of home-produced coal, ever since oil-products have been used to any real degree in the nineteenth century, the UK has *not* been overly reliant on any one state for energy products.¹⁰⁸ Anyway, as already stated there is a perfectly rational countermeasure to potential foreign energy pressure: the development of a diverse raft of home-produced energy sources. As for cyber attack, if governments, businesses and individuals have *any* sense, they employ up to date commercial security systems and ensure that their staffs do not engage in potentially hazardous practices. So, this type of threat should not *necessarily* be over-estimated.

Space is given to the deterrence in terms of insurance, literally.¹⁰⁹ Arguing that potential modern threats, such as North Korea, Iran and Pakistan, come 'with an unaffordable premium and an unnecessary level of cover *if* scaled to deal with the threat from the Soviet Union in 1980', this can be seen as fallacious. Firstly, this assumes that the UK's deterrence has already had spare capacity that could be reduced. Secondly, the UK's deterrence was *never* 'scaled to deal with the threat from the Soviet Union': it was the United States of

America that provided this! Not entirely reassuringly, the Liberal-Democrats state that they would ‘not use nuclear weapons in other circumstances’, adding that these ‘are NOT a blanket solution to all future threats or an ‘insurance’ against future uncertainty’. On the first point, the understanding of deterrence overwhelmingly held is that they should *not* be used, so the recurring advocacy by bright sparks of finding ways of using nuclear weapons other than in revenge for the complete destruction of the homeland should be unequivocally rejected.¹¹⁰ As for the second point, I would say that this is blindingly obvious and I am not aware of any *enlightened* person ever advocating one universal answer to complex problems.

Following on is a statement that maintains that the UK should not unilaterally disarm for two reasons. These are that this would ‘not yield financial savings in the Next Parliament nor would it give us leverage in global nuclear disarmament talks’.¹¹¹ The former point betrays the short-term thinking of these politicians. As for the latter, reviewing the last five decades or so there have been various agreements, firstly the international Nuclear Non-Proliferation Treaty of 1968 (NPT), but mostly US-Russian ones from the second Strategic Arms Reduction Treaty of 1979 (SALT II) all the way through to the New Strategic Arms Reduction Treaty of 2010 (New SALT). Most recently, the present US President, Barack Obama, has expressed a wish for further US-Russian nuclear arms controls. Unfortunately, his proposals have met with opposition, especially from elements within NATO.¹¹² In investigating all of these, I have detected no *positive* British input whatsoever.

The rest of the deterrence element of this policy paper outlines Liberal-Democrat ideas on possible alternatives to the Conservative HMG policy of CASD.¹¹³ This jumbled and illogical collection of snippets that has the appearance of resulting from focus-groups clearly shows how tortured the Liberal-Democratic ‘soul’ is.

The multifarious horrifically negative aspects of atomic/nuclear power in military form are *well* known and so, a paragraph on projected results from detonations is superfluous. Incidentally, using large-scale death and destruction is also an argument of ridding the earth of civil nuclear power stations.

Also mentioned are ‘our’ supposed ‘commitments to universal human rights, responsibility to protect, combating preventable disease, mitigating the effects of climate change’ etc. that would be undermined by ‘even modest use of nuclear weapons’. Elsewhere, there is a twofold wish ‘to defend our interests and be a force for good around the world’. Adding detail they wish to protect Britain’s ‘real global interests in commerce, culture, science’ and ‘education’. This is where inherent tensions arise, as ‘interests’ are entirely subjective and unfortunately, all too often relate to political, military and economic interference that is *negatively* perceived elsewhere. If taken to logical conclusions, as well as giving up nuclear weapons, future Liberal-Democratic governments would also cease supporting dictatorships and British and/or multi-national companies involved in all sorts of evil activities.¹¹⁴

The philosophical hand-wringing continues with a claim relating to the NPT. So it goes that in a few years *if* a British government ‘decided on new Cold-War-scale nuclear weapons, we would breach the spirit and maybe the letter of the Treaty’. Also, ‘global opinion’ is said to be ‘shifting fast’ on the ‘very existence’ of nuclear weapons: based on one international conference in Oslo in 2013 only.¹¹⁵ And, while the question of whether ‘anyone could actually press the button’ has been raised, it is revealing that the Liberal-Democrats apparently do not know that this had already been explored - decades before. This is *all*

entirely debatable, especially when *Realpolitik* is factored in and therefore, discussion should be held on a factual, rather than rhetorical basis.

Ironically, the Liberal-Democrats quote an American official that goes part way to a possible solution for them. This is that the British should make up their minds as to whether they should be ‘a nuclear power and nothing else, or a real military partner’. This can arguably be taken *far* further and particularly so, if British governments’ want to cut back on so-called ‘defence’ spending is considered. Although embarrassing, this would be an acknowledgement of Britain’s reduced status in the world (having lost its self-proclaimed ‘greatness’ post 1945); and a renunciation of post Imperial offensive capabilities in nebulous ‘Expeditionary Forces’. After all, in reality, nowadays militarily the British can contribute very little indeed and even when attached to the US, are only really there for political reasons. If, instead, the British armed forces were almost entirely re-orientated as *defensive*, rather than *offensive*, the United Kingdom could lead by example. This could, conceivably, act as a spur to better and coordinated organisation within NATO. Also, arguably, if this included getting rid of the deterrence, in doing so this might actually inspire more, rather than less respect in any future nuclear-arms reduction talks: should any ever occur.

Assuming that the Liberal-Democrats do not have the courage to adopt such a radical line, investigation of the ‘Contingency Posture’ should be made. As in the case of CASD, it should be taken as read the adoption of NCASD should be on a practical basis that as far as can be determined, assures protection.

Although originating in the 2013 TAR, other weapon systems have been claimed in the policy paper to be ‘technically viable but, in the short to medium term at least, very expensive’. However, submarines armed with *Trident* missiles have been deemed the primary option* in retaining a nuclear-deterrent.

Of note, no differentiation of potential present or future enemies has been made though and so, the search has subsequently been for what might be termed a ‘universal’ weapon system. Militarily, this in itself can be seen as presenting *acute* problems: especially as the Liberal-Democrats in particular seem to want first *and* second strike doctrines!

Anyway, the officials producing the TAR identified four ‘deterrence postures’: ‘continuous’, ‘focussed’, ‘sustained’ and ‘responsive’.¹¹⁶ Instead, the Liberal-Democrats prefer to use one only: ‘Contingency Posture’. As before, ideas, relevant and otherwise, are presented all higgledy-piggledy. Making sense of this linguistic anarchy is less than simple and reference to the TAR needs to be made to make a more meaningful assessment.

In essence the ‘Contingency Posture’ would begin with the reduction in number of *Trident*-armed boats and also ending of CASD. Secondly, while mounting NCASD the present boats should be re-fitted to handle other weapons, presumably modern versions of *Tomahawk*-cruise missiles: with conventional and/or nuclear warheads. Normally, the boats would be ‘unarmed’ and this would be stated publically, but, ‘during limited periods’ of extreme political stress, they would receive missiles. In the medium term, a fewer but unstated number of ‘successor’ submarines would replace the *Vanguard*-class boats. In the

* For reasons seemingly confused, there is also a mention of ‘NATO’s Dual Capable Aircraft capable of delivering US B61 nuclear bombs.’

long term, 'multi-purpose' submarines would be designed, with a 'capability to re-role from conventional to nuclear missions within a specified timeframe'.

Additionally, the RN would be required to 'exercise the submarine capability to maintain relevant skills, including weapons handling and nuclear command and control'; and also to '(p)eriodically practise redeployment of an armed submarine within a specified timeframe'. Apart from the inelegant and not entirely clear language, the idea that the RN would *not* practice any of this, if forced to go part-time, is ludicrous. If anything, I reckon that the naval establishment would constantly lobby for *more* sea time.

Based on my analysis of CASD, it would be reasonable to regard three SSBNs as an *absolute minimum* to operate a policy of NCASD. This would mean that after they began going into refit there would be one boat at sea, or ready to sail and a second in routine maintenance or training. In the case of one of these suffering major damage, or even loss (whether accidentally or through enemy action), there would only be one single boat left. Therefore, any *responsible* government that considered NCASD necessary would ensure flexibility - by operating a four boat squadron at least.

Also, unless absolutely excellent *new* docking facilities were produced, keeping boats in harbour out of the water and under cover, the submarines' hulls would still continue to deteriorate alongside: increasingly requiring time in dry dock.¹¹⁷ Apart from this, for machinery to remain reliable, even without design faults, it needs both to be run *and* maintained.¹¹⁸ The only realistic way of dealing with these problems, is to send the boats to sea and then maintain them properly while in harbour. This begs questions as to the potential for meaningful cost-cutting in *materiel* and maintenance.

Conceivably, if there were three SSBNs in the *operational cycle* at any one time, under normal circumstances, the two-crew system could be dropped, in favour of the traditional way of manning warships. Nevertheless, it would remain to be seen whether this could be sustained in the eventuality of a significant *permanent* threat arising: such as with a re-emerging Imperial Russia.

Prior to service at sea, those destined for submarines receive technical and where appropriate further professional training, ashore. These periods differ, often taking many months and for some, years. On joining their first boat, no matter what their rank or rating, they remain trainees until they qualify as submariners: after further *intensive* training onboard at sea. However, this is only the beginning and for some, training and practice needs to be routinely carried out. Admittedly, there have been mechanical and more recently computerised simulators that can aid in training.¹¹⁹ That said, in the case of attack teams they can only operate efficiently when all members are exercised together: including the commanding and executive officers.

This leads on to the basic fact that seamen need time at sea. No matter what has been learned theoretically ashore, it all needs to be done *practically* and in sync. For instance, it may well be known from the theoretical study of charts and pilot books by navigators that currents in some waters are tricky. However, it is not until these are experienced for real, under varying natural conditions that the executive-branch officers can be confident in handling their boats well. Of course, as with other machinery, ships and submarines have their individual idiosyncrasies in handling and these also need to be mastered. Therefore, this is

another reason for rejecting the supposed cost-cutting wish for keeping boats and their companies' idle alongside.

The refitting of the present *Vanguard*-class boats with other weapon systems *may* not even be necessary and hence, a potential expensive waste of money. Presumably future uses of cruise missiles will be similar to those that have already been carried out by SSNs: against 'Third World' targets. Per my thinking, there is *no* logic in also configuring SSBNs to this role, since SSNs are *far* better suited operationally. Anyway, there is a possibility that 'reduced-charge' nuclear or even conventional warheads for *Polaris* and *Trident* missiles have already been developed and deployed in a so-called 'sub-strategic' rôle.¹²⁰

Partly with this in mind, a general word of warning as to potential dangers of changing warships' roles and geographic deployments might be prudent. As with many other types of machines, warships are designed with *particular* uses in mind and often these relate to where they are to be located. Submarines are no different from surface ships in this respect.¹²¹

As well as this, there are other reasons for *not* converting SSBNs into 'dual-capable' submarines. The policy paper maintains that such boats 'able to deploy nuclear weapons or support our attack submarine fleet makes more sense than a large fleet dedicated to short-notice nuclear retaliation'. Firstly, it should be noted that four SSBNs, of which only three maximum are in commission at any one time does not constitute 'a large fleet'. Secondly, such 'dual-capable' submarines could well create *so* much uncertainty internationally as to make them grave *liabilities*. Even one of these boats known to be in the vicinity of some 'Third World' trouble spot could well be taken by local governments as a precursor to being nuked: possibly with extremely unfortunate results. Also, in the case of deployment out of home areas, it may prove exceedingly difficult to find suitable docking and other support facilities abroad.¹²²

Moving on, but partly linked to the last paragraph, although the Liberal-Democrats wish close ties with NATO, it is not at all certain that a British NCASD programme would be acceptable to these allies. Therefore, it might not be possible to have the UK within the NATO 'nuclear umbrella': leaving the British isolated. This could be distinctly problematical. Official pronouncements of 'invulnerability' notwithstanding, considering the state of modern weapon systems, there *are* possibilities of enemy Anti-Submarine Warfare (ASW) forces taking out the British SSBNs at sea.¹²³ So, if access to non-British underwater Sonar systems, or allied MPA, were to be partly or completely withdrawn, governmental confidence that SSBNs at sea were still in existence might well disappear. This may breed anxiety within the Cabinet, especially in the case of other disturbing events: political, or martial.¹²⁴

Even if the above situation were not to occur, there is also the general matter of intelligence and how it is interpreted. Although there is a mantra that western intelligence and security services are efficient, the US-UK Weapons of Mass Destruction fiasco over Iraq in the early years of this century is a public example of an utterly massive intelligence and analysis failure that allowed politicians to act as they wished and then claim 'innocence' afterwards. There are, of course, many situations where intelligence is either weak, or badly analysed.¹²⁵ Even in Signals Intelligence (SIGINT) that might be regarded as reliable, there are potential pitfalls. For instance, *acting on* erroneous perceptions in intercepted communications can have ruinous results.¹²⁶

There are numerous references to apparent political risks in changing 'postures' in periods of international stress within the TAR.¹²⁷ While indeed there would be dangerous

risks, it can be argued that they might not necessarily be any worse than has gone before. After all, the submarines alongside at Faslane have always been in full view of anyone across the Gareloch. The potential for minimising these international risks lies in statesmanship at Cabinet level and prosecuted especially, but not exclusively, by diplomatic means through the Foreign and Commonwealth Office. Nevertheless, it might be opined cynically that this would require a *massive* shift in how diplomatic exchanges are conducted: in acting in a straightforward and unambiguous manner.

Assuming that the seven *Astute*-class SSNs for the RN are built and prove reliable enough to keep five or six in commission at any one time, a 'Successor' class of less than four SSBNs in total would not appear to be much of an addition, if fitted as 'dual-purpose'.¹²⁸ Apart from the past mentioned reasons that warships are constructed for specific purposes, large SSBNs are *inherently* unsuitable for much of what SSNs do.¹²⁹

That nothing much has changed for NATO SSNs since the ending of the Cold War can be characterised by a reported recent event. This was the supposed ejection from the Barents Sea of an American SSN, by Russian ASW aircraft, on 7th August 2014 and is not a one off claim either.¹³⁰

Finally, unless future submarine-launched ballistic-missiles become smaller than the current generation, then SSBNs and SSGNs for that matter are going to remain large boats. This is absolutely salient for various reasons in their potential employment. For instance, the Barents Sea is comparatively shallow¹³¹ and so, not an area that non-Russian SSBNs, or SSGNs should be poking around in. Therefore, present Liberal-Democrat stated long-term wishes for an all SSGN force can be regarded as inherently unrealistic.

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- ¹ Hugh Chalmers: *A Disturbance in the Force: Debating Continuous At-Sea Deterrence* (London: RUSI, 2014)
- ² These documents will be discussed at length within this paper
- ³ Lawrence Freedman: *Britain and Nuclear Weapons* (London & Basingstoke: The Macmillan Press Ltd. for the Royal Institute of International Affairs, 1980)
- ⁴ Within the catalogue at The National Archives, Kew are pieces such as the submarine patrol reports up to and including 1973: but these presently are not orderable. Requests under the Freedom of Information Act would have been made if there was a reasonable chance of these seeing the light of day in a foreseeable time span
- ⁵ Iain Ballantyne: *Hunter Killers: The Dramatic Untold Story of the Royal Navy's Most Secret Service* (London: Orion Books Ltd., 2013); Daniel Conley & Richard Woodman: *Cold War Command: The Dramatic Story of a Nuclear Submariner* (London: Pen & Sword Books, 2014); and Sherry Sontag and Christopher Drew: *Blind Man's Buff: The Untold Story of Cold War Submarine Espionage* (London: Random House Ltd., 1998)
- ⁶ HM Government: *A strong Britain in an Age of Uncertainty: The National Security Strategy* 2010
- ⁷ For a readable, if biased, account of the CID's formative years, see Stephen Roskill: *Hankey: Man of Secrets* (London: Collins, 1970) volume I - 1877-1918
N.B. the CID was preceded by the Colonial Defence Committee that reached back to the 1880s
- ⁸ There are umpteen excellent histories of British interference on the North-West Frontier and Afghanistan. However, for a more unusual and particularly relevant source, there was a report made by a 'freelance spook' named Kenneth de Burgh Codrington c.1942. In my opinion, elements of this should be required reading for all British officials and officers involved in Afghan affairs. See The National Archives, Kew: Public Record Office Ministry of Education 23/763 - Notes on British-Afghan Relations
- ⁹ The Russian General Staff: *The Soviet-Afghan War: How a Superpower fought and lost* (Kansas: University of Kansas, 2002 - translated and edited by Lester W. Grau and Michael A. Gress) pp.xii-xiii - foreword written by Theodore C. Mataxis, Brigadier-General US Army (Retired)
- ¹⁰ I 'temped' in the City of London, in communication-operations in the late 1980s and into the 1990s variously. Having experience of numerous sectors, it was crystal clear to many intelligent and independently-minded people there that the financial 'system' was *inherently unstable* and that there was little, if any, enforcement of legislation by 'supervisory' bodies. Personally, I was surprised at how long it lasted before melting down.
- ¹¹ HM Government: *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review* 2010
- ¹² For an apparently not entirely disinterested review of the basics, see Claire Taylor: *A Brief Guide to Previous British Defence Reviews* (London: House of Commons Library, 2010)
- ¹³ See Gwyn Prins: *The British Way of Strategy-Making: Vital Lessons For Our Times* (London: RUSI, October 2011)
- ¹⁴ Even respected defence publications are vague in relation to warheads. For example, see *The Military Balance 2014* (London: The International Institute for Strategic Studies, 2014) p.151
- ¹⁵ Conley & Woodman: *Cold War Command* pp.244-247
- ¹⁶ HM Government: *The Future of the United Kingdom's Nuclear Deterrent* pp.7-8 & pp.17-21
- ¹⁷ HM Government: *Trident Alternatives Review*
- ¹⁸ HM Government: *A Strong Britain in an Age of Uncertainty* p.3 & p.18; and for handy reference to Britain and the Cold War, see Freedman: *Britain and Nuclear Weapons*
- ¹⁹ For an *aide-mémoire* to world affairs since 1945 from popular culture, readers might like to spend a few minutes reading the words of a song by Billy Joel, entitled 'We Didn't Start The Fire' on his 1998 album *Stormfront*
- ²⁰ HM Government: *The Future of the United Kingdom's Nuclear Deterrent* p.17
- ²¹ *Ibid.* p.18
- ²² *Ibid.*
- ²³ Freedman: *Britain and Nuclear Weapons* pp.2-4
- ²⁴ HM Government: *The Future of the United Kingdom's Nuclear Deterrent* p.18
- ²⁵ Freedman: *Britain and Nuclear Weapons* pp.5-6; and HM Government: *The Future of the United Kingdom's Nuclear Deterrent* p.20 & p.88
- ²⁶ HM Government: *The Future of the United Kingdom's Nuclear Deterrent* p.17
- ²⁷ *Ibid.* pp.18-19
- ²⁸ For a thought-provoking paper on this subject, see Forrest R. Frank: 'Nuclear Terrorism and the Escalation of International Conflict' in the *Naval War College Review* (Fall 1976) volume XXXIX number 2 pp. 12-27

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- ²⁹ HM Government: *Securing Britain in an Age of Uncertainty* pp.37-38
- ³⁰ Professor Freedman has opined that a coherent *rationale* for the UK maintaining a deterrent was never originally determined, resulting in embarrassed silence when challenged. See Freedman: *Britain and Nuclear Weapons* pp.29-30
- ³¹ Freedman: *Britain and Nuclear Weapons* pp.17-18, pp.21-23 & p.25
- ³² There are many books dealing with these matters. Two that might be read by politicians and their advisers that relate to *logic* rather than dogma are Robert S. McNamara: *Blundering into Disaster: Surviving the First Century of the Nuclear Age* (New York: Pantheon Books, 1986); and Robert McNamara: *Out of the Cold: New thinking for American Foreign and Defence Policy in the 21st Century* (London: Bloomsbury Publishing Ltd., 1989)
- ³³ Carl von Clausewitz: *On War* (London: Penguin Books, 1982) pp.101-122
N.B. Other pertinent complexities are also shown within the above quoted chapter on ‘What is War?’
- ³⁴ *The Military Balance 2014* pp.180-192; Bruce Jones: ‘Russia lays keels for three nuclear subs’ in IHS Jane’s Navy International 30th July 2014; and <http://www.naval-technology.com/projects/borei-class/>
- ³⁵ McNamara: *Blundering into Disaster* pp.44-45
- ³⁶ *Ibid.* p.35
- ³⁷ William C. Potter: *The Politics of Nuclear Renunciation: The Cases of Belarus, Kazakhstan, and Ukraine* (Washington DC: The Henry L. Stimson Center, 1995) Occasional Paper No. 22; Steven Pifer: *The Trilateral Process: The United States, Ukraine and Nuclear Weapons* (Washington DC: The Brookings Institute, 2011) Arms Control Series Paper 6; and the Letter dated 24 January 1994 from the representatives of the Russian Federation, Ukraine and the United States of America to the United Nations addressed to the Secretary-General - pdf file - A-49-66-S-1994-91_Russia-Ukraine-US%2014%20Jan%2094%20trilateral%20stmt[1]
N.B. For a insightful paper on some aspects of the Ukrainian governments problems see Oliver Bullough: *Looting Ukraine: How East and West Teamed up to Steal a Country* (London: Legatum Institute, 2014)
- ³⁸ For a recent opinion on the Ukrainian dimension, see Donald N. Jensen: ‘NATO Fumbles Ukraine’ in *The IMR Review* (New York: The Institute of Modern Russia Inc, 2014) Issue No. 3 p.8
- ³⁹ A flavour of the current situation can be gleaned from open source material. For instance see Vladimir Kara-Murza: ‘Russia and the Baltics: Once Friend, Now Foe’ in *World Affairs* January-February 2015 at <http://www.worldaffairsjournal.org/article/russia-and-baltics-once-friend-now-foe>; David Mardiste: ‘Estonia’s ruling, pro-NATO center-right claims election win’ through Reuters 1st March 2015 at <http://www.reuters.com/article/2015/03/02/us-estonia-election-dUSKBN0LX15620150302?feedType=RSS&feedName=worldNews>; Stephen Beard: ‘Latvia’s Russian minority not separatist’ in *Marketplace World* 31st March 2015 at <http://www.marketplace.org/topics/world/latvias-russian-minority-not-separatist>; ‘Lithuania ‘already under attack’ - President Grybauskaitė’ in BBC News 6th March 2015 at <http://www.bbc.co.uk/news/world-europe-31773941>
N.B. Poland is apparently also threatened by Russian activities. For example, see Damien Sharkov: ‘Poland Prepares for ‘Hybrid War’ Amidst Russian Threat’ in *Newsweek* 24th March 2015 at <http://www.newsweek.com/poland-prepares-hybrid-war-amidst-russian-threat-316469>
- ⁴⁰ For a fascinating review of the myriad facets see Luke Harding: *Mafia State: How one reporter became an enemy of the brutal new Russia* (London: Guardian Books, 2011). Also, for one courageous Russian’s perspective, see the murdered journalist Anna Politkovskaya: *Nothing but the Truth: Selected Dispatches* (London: Vintage Books, 2011 - translated by Arch Tait). And, for readers that might regard Ms. Politkovskaya’s death as ‘unfortunate’, it should be pointed out that according to an Organization for Security and Cooperation in Europe (OSCE) report on 21st October 2014, Dunja Mijatović stated that since 1992 ‘56 journalists have been murdered in Russia’. What is more ‘in most cases there have been no arrests’: never mind convictions. See <http://www.osce.org/fom/127038>
- ⁴¹ Freedman: *Britain and Nuclear Weapons* p.25
- ⁴² Originally, the V-bombers were ‘formally assigned to NATO in 1963’ and controlled by the Strategic Air Command, Omaha. See, Freedman: *Britain and Nuclear Weapons* pp.25-26. As of October 1967 *Polaris* submarines and missiles have been under normal command by British naval authorities, with targeting and other aspects assigned to Supreme Allied Commander Europe. See TNA: PRO DEFE 13/1050 - Strategic and Political Policy Brief No. 17 - Future of the *Polaris* Force pp.2-3
- ⁴³ Freedman: *Britain and Nuclear Weapons* p.28

⁴⁴ Ibid. pp.23-24

⁴⁵ For two examples, see Vice-Admiral Sir Arthur Hezlet KBE, CB, DSO, DSC, RN: *The Submarine and Sea Power* (London: Peter Davies, 1967) pp.260-262; and Lt/Cdr. Joseph J. Bredestege USN: 'Limited Nuclear War at Sea' in the *Naval War College Review* (February 1967) volume XIX number 6 pp.4-35

N.B. It should be pointed out that the former had an open mind to this and his conclusions the latter advised against the US building limited nuclear war at sea into its plans

⁴⁶ The political aspects were briefly mentioned in Freedman: *Britain and Nuclear Weapons* pp.28-29. Within declassified files there is voluminous fascinating detail as to how the SSBNs might have been deployed. See variously, TNA: PRO DEFE 5/175/82; DEFE 5/178/38; DEFE 11/437; DEFE 13/350 and DEFE 13/547

⁴⁷ According to one commentator, even this was more of an arm of foreign policy than anything. See Jason Burke: *Al Qaeda: The True Story of Radical Islam* (London: Penguin Books, 2004) pp.119-120

⁴⁸ For naval aspects up to and including the last British seaborne invasion in 1941, see Charles Rathbone Low: *History of the Indian Navy (1613-1863)* (London: The London Stamp Exchange Ltd., 1990 reprint) in two volumes; and Cdr. D.J. Hastings R.I.N.V.R.: *The Royal Indian Navy, 1612-1950* (North Carolina and London: McFarland & Co. Inc., 1988). For more modern events, such as on the western-backed regime between 1941 and 1979, sources are readily available online

⁴⁹ For the Sandy's cuts, see Freedman: *Britain and Nuclear Weapons* pp.4-5. As for those in the 1970s and early 1980s, from memory the general perception in the armed forces was that the cuts got far worse after the Conservatives returned to power. I distinctly remember it being said by a cynical comrade that under Labour there were shortages of necessities, such as paint and polish. However, under the Tories the shortages were of luxuries, such as fuel and ammunition!

⁵⁰ Generally, see Freedman: *Britain and Nuclear Weapons* pp.31-34 & pp.47-56. As for the *Chevaline* project, even now, although there is a considerable number of files in the TNA catalogue, very little is within the public domain. Nevertheless, some detailed analysis had been done. See John Baylis and Kristan Stoddart: 'Britain and the Chevaline Project: The Hidden Nuclear Programme, 1967-82' in *The Journal of Strategic Studies* (London: Frank Cass, December 2003) volume 26 number 4 pp.124-155

⁵¹ Freedman: *Britain and Nuclear Weapons* pp.31-33

⁵² For a treatise on MoD's past lamentably poor performance in tactical planning and equipment acquisition, see Lewis Page: *Lions, Donkeys and Dinosaurs: Waste and Blundering in the Armed Forces* (London: William Heinemann, 2006)

⁵³ There are various translations in English, a personal favourite on mine being as stylised 'cartoons'. For a readily available version, see Sun Tzu: *The Art of War* (Ware, Hertfordshire: Wordsworth Classics of Literature, 1998) pp.23-24

N.B. The latter-mentioned volume also includes Shang Yang: *The Book of Lord Shang*

⁵⁴ Soviet targeting of the primary radio aërials is briefly mentioned in one work. See Peter Hennessy: *The Secret State: Whitehall and the Cold War* (London: Penguin Books, 2003) p.184. Other aspects touched upon in this are either entirely out of date, or of dubious worth

⁵⁵ HM Government: *The Future of the United Kingdom's Nuclear Deterrent* p.27

⁵⁶ HM Government: *Trident Alternatives Review* 2013 pp.23-25, p.28 & p.29

⁵⁷ The UK's deterrent as the minimum is belaboured in HM Government: *The Future of the United Kingdom's Nuclear Deterrent*

⁵⁸ von Clausewitz: *On War* pp.164-167

⁵⁹ Freedman: *Britain and Nuclear Weapons* pp.31-33

⁶⁰ TNA: PRO ADM 1/28842 - Secret, undated, draft MoD minute to the Prime Minister, entitled 'Size of the U.K. POLARIS Force'

N.B. This particular, strengthened wording, was apparently the result of 'very careful analysis' conducted by a naval staff within MoD. Also, the next year there were similar pleas from the RN in relation to the then possible ANF. See TNA: PRO DEFE 13/350 - Top Secret MoD memo, entitled 'ATLANTIC NUCLEAR FORCE: THE SIZE OF THE BRITISH POLARIS FORCE, c.19th November 1964

⁶¹ TNA: PRO DEFE 13/1050 - Secret memo from the office of the Controller of the Navy, 1st October 1971, entitled 'HMS RESOLUTION - DIVING RESTRICTION' p.41A; and Confidential memo from the Assistant Controller of the Navy, 5th January 1973, entitled 'HMS REPULSE - CHANGE IN DASO PROGRAMME'; and TNA: PRO DEFE 13/547 - 'Power Fault in Submarine' in *The Times* 9th January 1968

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- ⁶² Conley & Woodman: *Cold War Command* pp.232-233
- ⁶³ Ibid. pp.254-255
- ⁶⁴ TNA: PRO FCO 46/2751 – Documents marked ‘66’ – Draft p.7; and ‘67’ p.2; and FCO 46/2753 – Documents marked ‘84’ - Memo p.1
- ⁶⁵ TNA: PRO FCO 46/2287 – Letter B.M. Norbury to C.A. Whitmore 14th February 1980 marked as ‘17’; FCO 46/2751 – Documents marked ‘66’ – Draft pp.6-7; and ‘67’ p.2; Peter Hennessy: ‘£1,000m nuclear deterrent suffers setback in trials’ in *The Times* 30th June 1981 p.1; and Peter Hennessy: ‘Short life for the Navy’s £1,000m stand-in deterrent’ in *The Times* 6th July 1981 p.3
- ⁶⁶ TNA: PRO DEFE 13/1050 - Top Secret Strategic and Political Nuclear Policy Brief No. 17, entitled ‘Future of the Polaris Force’, c.7th July 1970
- ⁶⁷ For the document stating only two boats in the cycle, see TNA: PRO DEFE 13/1050 - Top Secret UK Eyes Only memo from the Parliamentary Under-Secretary of State for Defence for the Royal Navy, 7th May 1971, entitled ‘SSBNS - EXTENDED NOTICE FOR SEA’. Correspondence relating to the industrial action is also in this pack and is voluminous
- ⁶⁸ Freedman: *Britain and Nuclear Weapons* p.35; and for some technical detail on the development of the launcher subsystem, see Graham Spinardi: *From Polaris to Trident: the Development of the US Fleet Ballistic Missile Technology* (Cambridge: CUP, 1994) pp.39-42
- ⁶⁹ TNA: PRO DEFE 24/512; and Freedman: *Britain and Nuclear Weapons* p.44
- ⁷⁰ Freedman: *Britain and Nuclear Weapons* p.36, pp.37-38, pp.39-40, pp.45-47, p.54, pp.60-61 & p.77; and Kristan Stoddart: ‘Maintaining the ‘Moscow Criterion’: British Strategic Nuclear Targeting 1974-1979’ in the *Journal of Strategic Studies* volume 31 number 6 pp.897-924
N.B. Within a booklet for those joining Polaris boats there is a full-colour diagram showing the path of a missile from launch to impact. See National Maritime Museum: *Polaris: An introduction to the British Polaris Force issued by authority of The Chief Polaris Executive and Flag Officer Submarines*
- ⁷¹ Actually there is no necessity to conduct this exercise, as such a map of specimens relating partly to deployments ‘East of Suez’ has already been declassified. See TNA: PRO DEFE 13/547 - Annexure A to Appendix 1 to Annex A to COS 82/67
- ⁷² One de-classified document actually mentions a predicted maximum operating depth for *Polaris* boats on patrol. Those that have the appropriate expertise would be able to work out how accurate this may, or may not, have been in reality. TNA: PRO DEFE 13/295 Secret Guard - Communications with Polaris Submarines (Note by the Admiralty) E33 Further information in this and another file, when taken together, would also allow for their speeds on patrol to be assessed in general terms and so on. See DEFE 67/98 - Operational Evaluation Note - Detectability of Submarine Trailing Wire Aerial.
N.B. I would not have quoted these had I not learned that bombers’ speeds and general operating depths have now been made public. See Ballantyne: *Hunter Killers* p.203 & p.204; and Conley & Woodman: *Cold War Command* p.205
- ⁷³ A published maximum range of the older C-4 missile was 4,000 nm. See Freedman: *Britain and Nuclear Weapons* p.76-77. As for the more modern D-5 missile, online sources vary considerably, but the seemingly most accurate gives 4,230 nm for fully-loaded missiles, to approximately 7,000 nm for those with reduced loads. See http://en.wikipedia.org/wiki/UGM-133_Trident_II
- ⁷⁴ ‘Nuclear subs collide in Atlantic’ on *BBC News Channel*, 16th February 2009.
See <http://news.bbc.co.uk/1/hi/uk/7892294.stm>
N.B. This understanding of SSBN patrol areas is confirmed elsewhere. See Ballantyne: *Hunter Killers* p.319 & p.390
- ⁷⁵ HM Government: *The Future of the United Kingdom’s Nuclear Deterrent* p.26
- ⁷⁶ For instance, there was the successful tracking of a new Soviet *Yankee*-class SSBN by a US SSN, *Lapon*, in September 1969. See Sontag and Drew: *Blind Man’s Buff* pp.129-139
- ⁷⁷ Willem Hackman: *Seek & Strike: Sonar, anti-submarine warfare and the Royal Navy 1914-54* (London: HMSO, 1984) pp.xxxi-xxxiii & pp.335-352; and Edward C. Whitman: ‘SOSUS: The “Secret Weapon” of Undersea Surveillance’ in *Undersea Warfare: The Official Magazine of the U.S. Submarine Force* - Winter 2005 volume 7 number 2 - electronic version
http://www.navy.mil/navydata/cno/n87/usw/issue_25/sosus.htm
N.B. For a précis of the history of the 1960s British SSN programme lobbying for new ‘improved’ *Valiant*-

class SSNs and also outlining capabilities of Soviet SSNs and SSKs, see TNA: PRO ADM 1/29270 - Secret draft supporting a memorandum from Chief Polaris Executive to DNTWP, dated 19th January 1966. Also, for interesting detail in how the Soviets quietened their boats see Bruce W. Watson and Susan M. Watson (Editors): *The Soviet Navy: Strengths and Liabilities* (Boulder, Colorado: West view Press and London: Arms and Armour Press, 1986) pp.60-61

⁷⁸ For example, see Ballantyne: *Hunter Killers* p.324 & p.397; Conley & Woodman: *Cold War Command* pp.85-86, p.161, p.193, pp.203-204; and Sontag and Drew: *Blind Man's Buff* p.91, p.94 & pp.130-131

N.B. The Soviets also developed their own sea-floor acoustic system and had apparently done so *before* the Americans! See Norman Polmar: *The Naval Institute Guide to the Soviet Navy* (Annapolis, Maryland: United States Naval Institute, 1991) p.28 & p.411

⁷⁹ Conley & Woodman: *Cold War Command* p.93

⁸⁰ One source specifically mentions SOSUS used for tracking US SSBNs. See Ballantyne: *Hunter Killers* p.110

⁸¹ HM Government: *Securing Britain in an Age of Uncertainty* p.27; 'Future UK Maritime Patrol' on Thinkdefence 9th April 2012 at <http://www.thinkdefence.co.uk/2012/04/future-uk-maritime-patrol/>; and 'U.K. Maritime Patrol Capability Re-Enters Fray' in *Aviation Weekly* 12th September 2103 at <http://aviationweek.com/defense/uk-maritime-patrol-capability-re-enters-fray>

N.B. In the course of writing this paper I have been unable to find much of any reliability on satellite tracking of nuclear submarines within open source documents. Even so, interesting possibilities were written about by the Soviets. See Polmar: *The Naval Institute Guide to the Soviet Navy* p.27 & pp.33-34. Also, in relation to countermeasures, see Ballantyne: *Hunter Killers* pp.212-213

⁸² For an example of this incident as reported, see <http://www.bbc.co.uk/news/uk-scotland-30398114>

N.B. As further reported, the use of MPA in force protection was claimed. See 'Loss of Nimrods raises fears of risk to UK's nuclear subs as Russia grows bold' in the *Financial Times* 29th December 2014 p.1. Also see 'Renewed focus on underwater warfare calls Nimrod scrapping into question' *ibid.* p.3

⁸³ Michael Nacht: 'Nuclear Deterrence to the End of the Century' in the *Naval War College Review* (November-December 1983) volume XXXVI number 6 pp.75-76; Milan Vego: 'Submarines in Soviet ASW Doctrine and Tactics' in the *Naval War College Review* (March-April 1983) volume XXXVI number 2 pp.2-16; and Milan Vego: 'The Role of the Attack Submarines in Soviet Naval Theory' in the *Naval War College Review* (November-December 1983) volume XXXVI number 6 pp.48-64

⁸⁴ Polmar: *The Naval Institute Guide to the Soviet Navy* pp.28-29, pp.92-93 & pp.114-116; and for additional practical detail, see Ballantyne: *Hunter Killers* pp.194-195, pp.203-204 & pp.393-394; and Sontag and Drew: *Blind Man's Buff* pp.212-213, pp.232-234, p.245 & pp.256-257

N.B. There is also an intriguing statement that one of these Russian SSNs 'attempted to trail a British ballistic missile submarine' in 2010. See Ballantyne: *Hunter Killers* pp.436-437. Also it has been acknowledged that the rate of Soviet counter-detections increased in the 1980s. See Conley & Woodman: *Cold War Command* p.177

⁸⁵ Sontag and Drew: *Blind Man's Buff* p.280

⁸⁶ Even on the surface in open water, lesser vessels can be dangerous for submarines. For example see Ballantyne: *Hunter Killers* p.215

⁸⁷ British Library: British Admiralty Charts numbered 2000 (Gareloch - 2011 edition); 3746 (Loch Long - 2011 edition); 1907 (Firth of Clyde - 2003 edition); 2798 (Rathlin Sound - 2005 edition); and 2635 (West of Scotland - 2011 edition)

N.B. The exit-entry point to deep ocean for SSBNs is clearly stated as the North Channel in Conley & Woodman: *Cold War Command* p.54. Of course, that is not to say that they could not also have gone via Saint George's Channel and the Southwest Approaches

⁸⁸ Shallow depths *and* long distances to deep water were specifically mentioned in relation to proposed rock-shelter submarine bases. See TNA: PRO ADM 1/31048 - The Submarine Base of the Future - Appendix B. Also, for general limitations of nuclear-powered submarines in shallow waters, see Hezlet: *The Submarine and Sea Power* p.248. For an example of this in practice, see Ballantyne: *Hunter Killers* pp.192-193

⁸⁹ Ordered to gain intelligence on merchant traffic in the North Channel, Kapitänleutnant Bernd Wegener, commanding *U27*, entered the Clyde on his own initiative, where he made a number of attacks, including sinking HM Armed Merchant Cruiser *Bayano* on 11th March 1915, with *very* heavy loss of life. See, Arno Spindler: *Der Krieg zur See: Der Handelskrieg mit U-Booten* (Berlin: E.S. Mittler & Sohn, 1933) band II

ss.32-34; and National Maritime Museum, Greenwich: Naval Staff, Training & Staff Duties Division; *Naval Staff Monographs: Home Waters* (1925) Volume XIII p.106

⁹⁰ TNA: PRO DEFE 69/251

⁹¹ Ballantyne: *Hunter Killers* pp.109-110, p.324 & p.349; and Sontag and Drew: *Blind Man's Buff* p.283
N.B. The location in the last incident is printed as North Sea, but must have been North Channel and may well have been the second incident mentioned in the former book on p.324. Also, there was at least one other detection out in the Northwest Approaches, of a Whiskey-class SSK. See Conley & Woodman: *Cold War Command* p.54

⁹² Ballantyne: *Hunter Killers* pp.190-194

⁹³ TNA: PRO ADM 1/31048

⁹⁴ *Ibid.*; DEFE 13/548 - SIXTH JOINT REPORT (1968) OF THE PROJECT OFFICERS FOR THE UNITED STATES AND THE UNITED KINGDOM POLARIS PROGRAMME TO THE SECRETARY OF DEFENSE AND TO THE SECRETARY OF STATE FOR DEFENCE p.1 & p.3; and Captain J.E. Moore RN (Editor): *The Impact of Polaris: The origins of Britain's seaborne nuclear deterrent* (Huddersfield: Richard Netherwood Ltd., 1999) pp.211-212

N.B. The Soviets apparently built rock-protected underground facilities for their *Typhoon*-class SSBNs, at Gremikha, in the early 1980s. See Sontag and Drew: *Blind Man's Buff* p.234

⁹⁵ TNA: PRO ADM 201/246

N.B. The scenario of attack that I have envisioned was as a 'bolt from the blue', carried out before reinforcement by RM reservists. Nevertheless, it can be argued that in this proposed reinforcement that real weaknesses would have *remained* and may well, still remain

⁹⁶ *Defending the Future: UK Defence in the 21st Century* - Policy Paper 112 - Autumn 2013 p.7

⁹⁷ If anything, the opposite to this paper's assertion of public demand for war can be argued. After all, *millions of us* protested that the upcoming invasion of Iraq in 2003 was '*not in our name*'! The political establishment collectively ignored us, with Parliament voting for this entirely predictable nightmare to come!

⁹⁸ *Defending the Future* pp.7-8

⁹⁹ *Ibid.* p.9

¹⁰⁰ Although slightly out of date in some respects, for a deeply thought-provoking cultural study of 'Arab' beliefs and attitudes, see Brian Whitaker: *What's Really Wrong with the Middle East* (London: Saqi, 2009 and 2011). Also, as a practical example of an abject HMG failure, before condemning Britain to *another* unwinnable war in Afghanistan in 2006 with all the attendant corruption *that was entirely predictable*, the politicians and officials responsible might have read Jason Burke: *Al-Qaeda: The True Story of Radical Islam* (London: Penguin Books, 2004), or its earlier version of the year before.

¹⁰¹ There are numerous think-tanks producing all sorts of thought-provoking analysis. For instance, in London alone in relation to the Middle East there is the Cordoba Foundation and for Eastern Europe are others, such as Legatum and the Centre for Research into Post-Communist Economies.

N.B. It is not unknown to see individual representatives of Whitehall departments at public think-tank meetings. That decisions ultimately made by HMG display no discernible understanding of complex matters would seem to indicate that the efforts of these more knowledgeable state workers are in vain though

¹⁰² HM Government: *A strong Britain in an Age of Uncertainty* p.27; and *Defending the Future* pp.9-10

¹⁰³ von Clausewitz: *On War* pp.399-401

¹⁰⁴ *Defending the Future* pp.11-12

N.B. Permanent RN shore facilities in Bahrain, as per MoD's announcement of 6th December 2014 *might* make further foreign military adventures in the Middle East more likely. Incidentally, in reviewing past ships' names, perhaps this new base might be commissioned as *Imperial*

¹⁰⁵ Events slightly overtook this Middle Eastern scenario within weeks, with western commitments to air strikes on *Dai'ish* (the Islamic State of Iraq and the Levant) and the *Jabhat al-Nusra* in Iraq and Syria. Nevertheless, the situation remaining exceedingly complicated and as could have been predicted, light-weight air attacks have done comparatively little to 'degrade and destroy' ISIL and their erstwhile enemies in the *Jabhat al-Nusra* up to now. Also, although not reported by western media much, the situation in the Ukraine is nowhere near as peaceful as might be thought, even after the most recent ceasefire in December 2014 (where there have still been multiple incidents involving small-arms fire) as reports by the OSCE prove. These and others, such as on the Nagorno-Karabakh Crisis are issued routinely through

- ¹⁰⁶ As an example both of intelligent analysis and confusion caused by ‘mixed messages’ relating to the Cold War see Stephen M. Millett: ‘Soviet Perceptions of the Theater Nuclear Balance in Europe and Reactions to American LRTNFS’ in the *Naval War College Review* (March-April 1981) volume XXXIV number 2 pp.3-17.
- ¹⁰⁷ *Defending the Future* p.19; and Freedman: *Britain and Nuclear Weapons* pp.32-33
- ¹⁰⁸ *Defending the Future* p.19; and for a selection of published works on the early oil industries see Stephen Hemsley Longrigg: *Oil in the Middle East: Its Discovery and Development* (London: Oxford University Press, 1968); Richard O’Connor: *The Oil Barons: Men of Greed and Grandeur* (London: Hart-Davis Mac-Gibbon, 1972); Robert Henriques: *Marcus Samuel: First Viscount Bearsted and founder of The ‘Shell’ Transport and Trading Company 1853-1927* (London: Barrie and Rockliff, 1960); T.A.B. Corley: *A History of the Burmah Oil Company 1886-1924* (London: Heinemann, 1984); Desmond Young: *Member for Mexico: A Biography of Weetman Pearson, First Viscount Cowdray* (London: Cassell, 1966); and Robert W. Tolf: *The Russian Rockefellers: The Saga of the Nobel Family and the Russian Oil Industry* (Stanford, California: Hoover Institution Press, 1976)
- ¹⁰⁹ *Defending the Future* p.20
- ¹¹⁰ As an example, in the early 1990s US planning has envisioned nuclear weapons in countering various threats, generally known as Weapons of Mass Destruction. See David S. McDonough: *Nuclear Superiority: The ‘new triad’ and the evolution of nuclear strategy* (London: IISS, 2006) Adelphi Paper 383
- ¹¹¹ *Defending the Future* p.20
- ¹¹² In relation to the Obama proposals, see *The Military Balance 2014* p.33
- ¹¹³ *Defending the Future* pp.20-23
N.B. Unless otherwise stated, any further quotes on this subject relate to these pages
- ¹¹⁴ Time working in the City of London taught me much of the reality of all this
- ¹¹⁵ Apart from taking into account worldwide anti-nuclear demonstrations held by organisations such as the British Campaign for Nuclear Disarmament, those that made this statement might like to read the words of another popular song: ‘Russians’ in Sting’s 1985 album *The dream of the blue turtles*. Also, as far as I can determine there was no agreed text published from this conference. For Norwegian governmental comments, http://www.regjeringen.no/en/dep/ud/selected-topics/humanitarian-efforts/humimpact_2013.html?id=708603; and http://www.regjeringen.no/en/archive/Stoltenbergs-2nd-Government/Ministry-of-Foreign-Affairs/taler-og-artikler/2013/weapons_final.html?id=716983
- ¹¹⁶ HM Government: *Trident Alternatives Review* 2013 pp.4-5
- ¹¹⁷ Certainly in the days of *Polaris* boats, from personal experience, operations branch crew-members would have greatly valued having *any* protection from the elements. My understanding is that while there have subsequently been improvements both at Faslane and Coulport, cover remains limited
- ¹¹⁸ As an example of a design fault in *Swiftsure*-class SSNs, see Ballantyne: *Hunter Killers* p.230
- ¹¹⁹ The RN apparently became very keen on such training aids during the Second World War. For example see TNA: PRO ADM 1/18969 - Synthetic Training Devices - Preparation of Naval List, dated 7th June 1943
- ¹²⁰ Parliamentary Archives: HMG: *The Strategic Defence Review* (HMSO, 1998) (Cm. 3999) p.18; Conley & Woodman: *Cold War Command* p.257; and Paul Rogers: ‘A Note on the British Deployment of Nuclear Weapons in Crises - with particular reference to the Falklands and Gulf Wars and the purpose of Trident’ in *Lobster* 28 (Hull: Robin Ramsay) December 1994 pp.2-10
N.B. For more on this, see my other paper entitled *Britain’s Submarine Nuclear Deterrence - Past, Present and Future* at <http://www.barnettmaritime.co.uk>
- ¹²¹ For instance, British A-class submarines that were built for service in the Pacific were basically unsuitable for Arctic patrols: not having efficient heating. See Ballantyne: *Hunter Killers* p.82. Also, For a Soviet example clearly mentioned in a relatively recent television documentary, see *The Silent War*, BBC2, broadcast on 12th December 2013. Five *Victor III* class boats that had been designed for service in cold northern waters were deployed to the Sargasso Sea in spring 1987 and apparently conditions onboard were miserable
- ¹²² I sincerely hope that it is not envisaged by the denizens of Whitehall that the RN base at Bahrain be used for British SSBNs, or SSGNs!
- ¹²³ Even later in the Soviet era it can be seen that there really was a qualitative improvement in their perfor-

mance. For across the board analysis see Polmar: *The Naval Institute Guide to the Soviet Navy*. Also, as previously mentioned, the two-part *The Silent War*, BBC2, broadcast on 5th and 12th December 2013 gave fascinating insights into the eternally changing nature of the submarine Cold War at sea. As for modern capabilities, reference to modern annuals, such as *IHS Jane's Fighting Ships* should show that there are navies with considerable ASW capabilities

¹²⁴ This is *not* a purely academic point, as Portuguese officials and officers active in the 1970s might well confirm

¹²⁵ Apart from many examples that can be found within historical works, this is also from personal experience as a cypher officer in the FCO during the 1980s. I was occasionally absolutely staggered at the pathetically poor standards of analysis of intelligence in highly classified telegrams that I saw

¹²⁶ As an example of a SIGINT failure, due to intercepted and decrypted wireless messages between German officers concerned with the Ottoman situation at the Dardanelles in the spring of 1915, pressure was put on Vice-Admiral Carden to attempt to force the Straits. This ill-fated attack was undertaken on 18th March 1915, with serious further consequences. Saliently, the Ottomans were *not* short of ammunition, but the German advisers thought that they were. See TNA: PRO ADM 137/109 p.466; Patrick Beesly: *Room 40: British Naval Intelligence 1914-18* (London: Hamish Hamilton, 1982) pp.80-81; and Edward J. Erickson: *Gallipoli: The Ottoman Campaign* (Barnsley, South Yorkshire: Pen & Sword, 2010) pp.22-29

¹²⁷ HM Government: *Trident Alternatives Review* 2013 p.5, p.9, p.10, p.23, pp.24-25 & pp.32-33

¹²⁸ HM Government: *Securing Britain in an Age of Uncertainty* p.21

¹²⁹ Among published works on these operations that are beginning to surface are Ballantyne: *Hunter Killers* on the RN; and Sontag and Drew: *Blind Man's Buff* on the USN. Additional insights, particularly on Soviet operations can also be gained from *The Silent War*, BBC2, broadcast on 5th and 12th December 2013. Also, for those interested and with relevant expertise, there are now numerous declassified files that give good information on RN submarine tactical exercises in the 1960s and 1970s. See general class TNA: PRO DEFE 67

¹³⁰ Sam LaGrone: 'U.S. Denies Attack Submarine 'Expelled' From Barents Sea' in *USNI News*, 11th August 2014 - <http://news.usni.org/2014/08/11/u-s-denies-attack-submarine-expelled-barents-sea>; and Kyle Mizokami: 'Russia Playing Politics With Alleged Submarine Confrontations' in *USNI News*, 26th August 2014 - <http://news.usni.org/2014/08/26/russia-playing-politics-alleged-submarine-confrontations>

¹³¹ As mentioned in Ballantyne: *Hunter Killers* p.133