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Forging a maritime alliance

**Norway and the evolution of American
Maritime Strategy 1945-1960**

Mats Berdal

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Preface

This study is based largely on aspects of my doctoral dissertation from Oxford University in which I examined Norway's place in the strategic policies of the Eisenhower administration from 1954 to 1960. In the course of writing I have benefited greatly from the support and encouragement of numerous individuals in Great Britain, the United States and Norway. I am particularly grateful for the support which I received in England from Professor Robert O'Neill of All Souls College, Oxford. I would also like to record a special debt of gratitude to Dr Eric Grove who provided extremely useful comments on the early drafts of this study. In the United States I am particularly grateful to Mr Joshua Spero at the National Defence University and Mrs Kathy Lloyd at the US Navy Operational Archives Branch who arranged practical aspects of my research in Washington. In Norway I am deeply indebted to Professor Olav Riste and Dr Rolf Tamnes at the Norwegian Institute for Defence Studies who encouraged me to focus my research on the 1950s and provided extremely valuable advice and comments as the study progressed. Finally, I am most grateful for the help extended to me by Ambassador Tor Hjort-Johannesen and chief archivist Ms Bente Sørum at the Norwegian Foreign Ministry.

Dr Mats Berdal
London, June 1993

Introduction

For no defence, based only on our own shores, has any hope of success in the age of foreshortened geography. With the increase in speed and range of new weapons and the shrinking of the map, the 'outpost' line - the line to give us warning of attack - must be pushed out farther from our shores if any sort of defensive tactics and defensive implements are to have even moderate success.¹

Hanson W. Baldwin, 1953

Now, more than ever before, Norway is doing an especially useful job buttressing American anti-Soviet strategy when it is just defending its own territory against the primary threat ... Norway's present strategic deployment of forces might with much truth be called America's secret weapon against the Russian undersea arm.²

William H. Hessler, 1960

This study is concerned about a particular aspect of US strategic policy between 1945 and 1960: the evolution of United States maritime strategy in the High North. Subsumed under this overarching theme, the study explores the growing importance of Norway in US *maritime strategy* resulting from the interaction of geography and rapidly changing military technologies occurring within a *bipolar context* of intense ideological rivalry. In short, I have attempted to provide a detailed analysis of the US Navy's adjustment to what

¹ Hanson W. Baldwin, 'What Kind of Defence in the Atomic Age?', *New York Times Magazine*, 17 May 1945.

² William H. Hessler, 'Norway's Role in US Defense,' 13 October 1960, *US Naval Institute Proceedings* (July 1960).

Michael Palmer has described as "a Northern strategy", and Norway's contribution to the process of adjustment³. The study is divided into four parts.

Chapter One considers the years from 1945 to 1953; a period during which Norway's position in the international system shifted from being an exposed flank in an extended Anglo-German conflict to one where it occupied a new and vulnerable position at the nexus of East- West strategic interests. In the course of this period, the British inability and unwillingness to make firm commitments to Norway made it increasingly clear that only the US could possibly bridge the gap between NATO's first Medium Term Defence Plan (1950) and the capabilities available to defend the region. At the same time as the Soviet Union was seen to improve its air and sub-surface long-range delivery capabilities in the early 1950s, the US came to view Norway and its contiguous sea areas as increasingly important for the Arctic and sub-Arctic defence belt of the continental United States (CONUS).

Chapter Two explores in detail how American maritime interests in the High North between 1954 and 1960 evolved in response to the build-up of Soviet submarine and naval air forces on the Kola Peninsula. Specifically, it considers the reasons behind the reorientation of American threat perceptions from the Baltic to the Northern Fleet area and Norway's intelligence contribution towards it.

Following this, the third chapter examines how US naval commitments and activities in the area after 1954 changed from an initial awareness of the strategic importance of the "northern seas" to specific requirements for wartime bases and facilities in Norway and an increased level of operational activity in the North Atlantic. In particular, the chapter focuses

³ Michael Palmer, *Origins of the Maritime Strategy: American Naval Strategy in the First Postwar Decade* (Washington DC: US Government Printing Office, 1988), p. 77.

on the manner in which the process of adjustment, especially the increasing emphasis on forward nuclear strike operations, came to influence Norway's place in American strategy. This involves a closer look both at the precise role of Norway in US naval war plans under Eisenhower's 'New Look', and the augmentation of operational activity in and around Norwegian territory between 1954 and late 1957.

In the final chapter attention is focused on the period after 1957 when the US Navy assumed additional duties in the Atlantic, much as the Sixth Fleet had done in the Mediterranean after the Second World War. The growth of US naval activities in the North Atlantic between 1957 and 1960, and their direct and indirect implications for Norway, will be assessed in relation to three key areas: (1) the measures introduced to strengthen US anti-submarine warfare capabilities, (2) the deployment of Fleet Ballistic Missile submarines (POLARIS) in the Norwegian Sea, and (3) the growing concern within the US Navy about possible limited war scenarios on the Northern Flank. The chapter concludes with a look at various indications of growing Soviet concern about US maritime strategy in the far north after 1957.

**CHAPTER I:
US MARITIME STRATEGY AND NORWAY
1945-1953**

Forrestal and the primacy of the Mediterranean Theatre, 1945-1949

In February 1945, James Forrestal, in one of his many commissioned studies on the role of the Soviet Union after the war, turned his attention to Scandinavia.⁴ Although the Soviet Union was not believed to harbour aggressive intentions with respect to any part of Scandinavia, the study noted that:

the acquisition of a common frontier with that country [Norway] in the Far North and the proximity of Norwegian territory to Murmansk, Russia's only ice-free port opening directly on the high sea, give Norway a very special place in Russian eyes.⁵

The report concluded on a pessimistic note:

it appears quite possible that the Russians will seek a pact with Norway which will provide for joint Norwegian-Soviet defence of northern Norway against any third power.

The importance which Forrestal evidently attached to this particular report - he included the entire report in his diary - must partly have reflected the significance of its conclusions for the future roles and missions of the US Navy, whose cause he was busy championing at the time. Preparing for the

⁴ James Forrestal, who had been appointed Secretary of the Navy in April 1944, went on to serve as the first Secretary of Defence from September 1947 to March 1949. See, Yergin, *Shattered Peace*, pp. 204-208; Michael Palmer, *Origins of the Maritime Strategy: American Naval Strategy in the First Postwar Decade* (Washington, DC: Naval Historical Center, 1988), pp. 4-6.

⁵ The Forrestal Diaries, 7 February 1945. Quoted in Geir Lundestad, *America, Scandinavia and the Cold War, 1945-1949*, (New York: Columbia University Press, 1980), p. 40.

coming "unification struggle" with the other services and conscious of the widespread support for air power, James Forrestal redefined the future mission of the Navy in terms of "sea-air power."⁶ Briefly, this held that fast self-contained carrier groups would form the centrepiece of the modern navy. Meanwhile, operational planning would emphasise the role and development of carrier-based aviation at the expense of the traditional battleship.⁷ The importance of carrier offensive capabilities became a persistent theme in naval planning from 1945 onwards, and it acquired a new dimension when the navy in 1947 began to position itself for a role in the strategic air offensive.⁸ Given Forrestal's belief that "sea-air power would give the navy a key role in war with the Soviet Union", it is not surprising that he showed such interest in the report on Scandinavia. In early 1946 Forrestal sanctioned *Operation Frostbite*, a "special series of experimental missions into the Arctic Ocean to learn how efficiently carriers and aircraft could operate in snowy weather, icy sea and low visibility."⁹ For all this, once the Navy did redirect its focus from the Pacific to Europe in early 1946, it was, as with the British COS, the Mediterranean, which became the principal theatre of American interest. In the autumn of 1946 the US

⁶ Daniel Yergin, *Shattered Peace: The Origins of the Cold War and the National Security State* (London: Andre Deutsch Ltd. 1979), pp. 208-11.

⁷ Yergin, *Shattered Peace*, pp. 208-11; Vincent Davis, *Postwar Defence Policy and the US Navy* (Durham, NC: University of North Carolina Press, 1966), pp. 147-150, 163-66; Michael S. Sherry, *Preparing for the next war: American plans for postwar defence, 1941-1945* (New Haven: Yale University Press, 1977), p. 218; Gregg Herken, *The Winning weapon: The Atomic Bomb in the Cold War, 1945-1950* (New York: Vintage Books, 1982), pp. 202-204.

⁸ David Alan Rosenberg, "American Postwar Air Doctrine and Organisation: The Navy Experience," in *Air Power and Warfare, Proceedings of the Eighth Military History Symposium*, (Washington, DC: Office of Air Force History, 1978), pp. 251-254.

⁹ Davis, *Postwar Defence Policy and the Navy*, pp. 222-223.

established the Mediterranean Fleet (soon to be renamed the Sixth Fleet).¹⁰

In an important statement on naval strategic thinking, presented to the President on 1 January 1947, Admiral Forrest P. Sherman, then Head of the Strategic Plans Division (OP-30), stressed the vital importance of dominating "the Mediterranean sea line of communications."¹¹ Although "retarding Soviet advances into Norway, Spain, Italy, Greece and Turkey" was listed as a naval task in the event of war, the importance of the Arctic regions was assessed primarily in light of their future role in American strategy:

With the passage of time and the expected development of airborne missiles, the importance of the northern approaches to the United States will increase. We anticipate that naval forces will be called on to operate in Arctic regions to seize and support bases for our air forces, and to prevent the use of the Arctic regions as bases for attack against us. For that reason we are grasping every opportunity to increase our skill in cold weather operations and to improve our material for such service.¹²

Sherman's presentation also formulated the basic tenets of the Navy's strategic concept as it had crystallized since the end of the war. The two central and related elements were: the importance of forward offensive operations against land targets (subsumed under the notion of "attack at source"), and the centrality of the *carrier task force* as the key to accomplishing a range of Navy missions: amphibious operations, anti-

¹⁰ Palmer, *Origins of the Maritime Strategy*, pp. 21-23, and *The Forrestal Diaries*, ed. Walter Millis (London: Cassel & Co.Ltd., 1952), pp. 209-210.

¹¹ Presentation to the President, 14 January 1947, Vice Admiral Forrest Sherman, Appendix to Palmer, *Origins of the Maritime Strategy*, pp. 85-91.

¹² *ibid.*

submarine warfare (ASW) and air strikes against targets on land. Sherman was, however, still thinking in terms of conventional operations.

NATO membership and the defence of the Northern Flank, 1949-53

The American commitment to defend Western Europe against the putative threat of the Soviet Union, symbolised by the establishment of NATO in April 1949, necessarily meant that the US Navy had to reconsider its post-war focus on the Mediterranean as the principal theatre of operations in European waters. The outbreak of the Korean war in June 1950 not only provided a powerful impetus for a rapid expansion of the US Navy, but also accelerated the trend whereby the earlier exclusive emphasis on the Mediterranean shifted towards the direct defence of Western Europe. With agreement on a Strategic Concept and the creation of an integrated command structure, a more sustained focus on the problems of defending Europe could be conducted. Two developments in 1951-52 were indicative of a growing naval interest in Northern Europe. The first of these was the creation in April 1952 of an integrated Atlantic Command (ACLANT) under a US Supreme Commander (SACLANT). The second was SACEUR's own strategic conception for the defence of Europe which, under General Eisenhower, strongly emphasised the provision of naval support to NATO's northern and southern flanks in the event of war with the Soviet Union.

When ACLANT was set up in 1952 it was divided into two major geographical command areas: The Western Atlantic Area (WESTLANT), commanded by a US officer, and The Eastern Atlantic Area (EASTLANT) under joint command of a British naval Commander-in-Chief and British air Commander-in-Chief. The most important operational unit in the event of war, however, was the Strike Fleet Atlantic. This force was organised as a functional rather than geographical command

and consisted of two carrier groups which were directly subordinate to SACLANT, regardless of the particular area in which it might be operating.¹³ In September 1952 it came into operation for the first time during the MAINBRACE exercise. This exercise, in which SACLANT, responding to a hypothetical attack on Norway and Denmark, provided outside carrier forces in support of the land battle in North Norway and Denmark, was designed to put into practice Eisenhower's "flank-concept".¹⁴

Central to Eisenhower's thinking was the emphasis he placed on a very heavy concentration of sea and air assets on the flanks to compensate for weaknesses on the central front. In a meeting held with the President in late January 1951, Eisenhower elaborated on his concept and described how, having assembled "a great combination of air and sea power in the North Sea", he would, "if the Russians tried to make a move ahead in the center ... hit them awfully hard from both flanks."¹⁵ Two months later, in March 1951, Eisenhower was asked by the Standing Group to submit his estimated force requirements for defence of Western Europe based on D-Day of July 1954. In his reply, Eisenhower requested four carriers to be available on each flank at D-Day. Moreover, at D+15 a third carrier task group would reinforce the "weaker flank according to SACEUR's decision" and a fourth carrier task

¹³ Admiral Sir Michael Denny, "The Atlantic in a World War: What Does it Mean?", *The RUSI Journal*, no. 603 (August 1956).

¹⁴ Annex J to HIST/NORTH/1952-53, History of Northern European Command, SECCOS, HQ AFNORTH, and "Carriers to the Rescue?" *Air Force* (December 1952).

¹⁵ Notes on a Meeting at the White House, 31 January 1951, FRUS 1951, Vol. III, part 1, p. 454. See also, Memorandum, From: CNO, to JCS, 29 April 1952, Subj: JCS 2073/349 - Naval support of SACEUR's Northern Flank, A-I, Box 271, Strategic Plans Division Records, NHC.

group would reinforce the other flank at D+30.¹⁶ In other words, a total of 16 attack carriers - 8 on each flank with "atomic capabilities" - would be on station 30 days after D-Day.¹⁷

In June 1951, SACEUR's flank concept was succinctly summarised by his Chief of Staff, General Alfred Gruenther:

Under this concept, General Eisenhower has in mind that the two flank commands, Northern Europe and Southern Europe, are going to be primarily naval and air commands. At this stage in the development of forces, there are not sufficient ground forces in either of these areas to constitute a strong defence. General Eisenhower's concept of the strategy is that by the use of air and naval power on these flanks he then forces the decision in the Central area. As a matter of fact, this area becomes the cork that closes in and shuts up the bottle.¹⁸

Importantly from Norway's point of view, Eisenhower would use the carriers principally in support of the defence of Norway and Denmark.¹⁹ As he wrote to Admiral Bruce Fraser, the First Sea Lord, in September 1951:

¹⁶ D/OP-30 (Arleigh Burke) to Distribution List, enclosing "Study of Attack Carrier Force Levels (Cold War)," 13 October 1953, A4, Box 280, Strategic Plans Division Records, NHC.

¹⁷ General Eisenhower to Admiral W.M. Fechteler, December 1951, *The Papers of D.D. Eisenhower: NATO and the Campaign of 1952: XIII* (Baltimore: The Johns Hopkins University Press, 1989), p. 769.

¹⁸ "The Defence of the Free World", Address by Lt. General Alfred M. Gruenther to the American Club of Paris, 28 June 1951, Gruenther, Alfred M. (1) [Aug. 1950 - April 1952], Box 48, Dwight D. Eisenhower, Pre-Presidential Papers, DDEL.

¹⁹ War Plans Division, D/Plans, Info., 5 October 1951, Subj: Employment of Aircraft Carriers in the North Sea and North East Atlantic, 7c Carrier Papers, Box 84, Papers of General H.S. Vandenberg, Manuscript Division, Library of Congress.

it is beyond my comprehension to envisage the defence of Norway and Denmark, vulnerable as they are to seaborne attack and dependent as our meagre land and air forces will be for support by the sea, unless adequate naval forces are ready to operate...

Norway and Denmark alone cannot provide the naval forces that will be needed. It is obvious that carrier, heavy support, and amphibious units must be provided in the area by other NATO nations, chiefly by the British and the United States.²⁰

During the MAINBRACE exercise the concept was put to the test. An Anglo-American carrier task force - four US and two British carriers - sailed from the Firth of Clyde to North Norway where aircraft delivered interdiction and close support strikes to "stabilise the front" for the NATO defending force. A convoy was run between the UK and Bergen while the task force itself engaged in offensive ASW operations.²¹

It is important to stress here that growing US Navy interest in Northern Europe in the early 1950s, outlined above, should not be seen merely as a function of SACEUR's operational requirements. The US Navy was developing an interest in the "northern Sea" *independently* of SACEUR's plans for the defence of Western Europe. As a result, although Eisenhower's defence concept and the very ambitious NATO force goals upon which the flank concept was predicated, were ultimately shelved, this *did not* lead to a corresponding diminution of naval interest in the region.

Not unexpectedly, the section within the Navy which first began to pay greater attention to Northern Europe was the

²⁰ Quoted in "Study of Attack Carrier Force Levels (Cold War)," 13 October 1953, A4, Box 280, Strategic Plans Division Records, NHC.

²¹ "There is No Easy Way Out: A Second Look at Mainbrace", *Air Force* (January 1953).

Office of Naval Intelligence (ONI) which was charged with the task of monitoring and estimating Soviet naval and naval air activity and capabilities. Later, the Strategic Plans Division (OP-30), responsible for long-term strategic planning in the Navy, also began to adjust itself to what Michael Palmer has referred to as a "northern strategy."²² In September 1949 the ONI presented a report on the modernisation of ship repair and dry docking facilities in the Kola Inlet (Kol'skiy Zaliv), within which lay the port of Murmansk and the naval operating bases of Vayenga (Severomorsk) and Polyarnyy.²³ In addition to these two main bases the ONI briefly referred to "minor naval facilities" at Pala Bay, Olenya Bay and Tuva Bay. The report concluded that a "strong naval base in the Kola Inlet can be a threat to North Atlantic shipping routes or can support an invasion of the Norwegian coast."²⁴

In January 1951 the ONI had drawn up a 'recommended' list of five targets in the 'Barents Sea area' whose destruction 'would make a contribution towards reducing the Soviet capability to conduct submarine operations.' These were: Rosta Naval Base and shipyard Sevmorput; Pechenga submarine pens; Poyarnyy Naval Base; Iokanga Naval Base and Vayenga Naval Base.²⁵ Both these intelligence reports, however, were primarily concerned with the then unexplored potential of naval and air bases on this arctic peninsula.

In March 1953 the strategic importance of the area from a naval point of view, as well as the need to make fast attack carriers available for operations along the Norwegian coast and in "the Murmansk area", were openly discussed in hearings

²² Palmer, *Origins of the Maritime Strategy*, p. 77.

²³ "The Kola Inlet and its Facilities", *The ONI Review*, vol. 4, no. 9, 1949, NHC.

²⁴ *ibid.*

²⁵ Annex 'Targets recommended for immediate effect,' 24 January 1952, ONI Ts Records, NHC.

before the Subcommittee on Appropriations for the Navy.²⁶ During the hearings it was pointed out how the operation of carrier forces in the Murmansk area in the early days of World War II might "have done a great deal" to reduce "the terrific loss of ships" in the area. With carriers in the North Atlantic, the Assistant Secretary of the Navy (Air) told Committee members, "we could have hit those aircraft [German aircraft operating against Allied convoys] on the ground and destroyed them before they ever got off to destroy our ships or aircraft."²⁷ In contrast to the immediate post-war years, Navy spokesmen during these hearings also confidently asserted that fast-carrier operations in the Murmansk area could be conducted "year around" since "it is ice free."²⁸ The impression which the Navy spokesmen sought to leave with the Committee was that the carrier task forces, "for which there is no substitute", were ideal against both tactical and strategic targets in the Northern region. An even clearer indication of the Navy's growing concern about developments in the High North came in October 1953 when Admiral Arleigh Burke described the "Northern Seas" (defined as the Northeast Atlantic - Norwegian - Barents Sea area) as an area whose importance to the security of the US was as great as the Mediterranean.²⁹ In a comprehensive study by the Strategic Plans Division, it was pointed out how this area might "well be the area of decision with respect to the success of any United States operations to maintain the flow of supplies to our European Allies and to our US forces in Western Eur-

²⁶ Hearings before the Subcommittee on Appropriations House of Representatives, Eighty-Third Congress (First Session), Department of Navy Appropriations for 1954, 3 March 1953, (Washington, DC: USGPO, 1953), pp. 76-78.

²⁷ *ibid.* p.76.

²⁸ *ibid.* p. 78.

²⁹ "Study of Attack Carrier Force Levels", 13 October 1953, A4, Box 200, Strategic Plans Division Records, NHC. Admiral Burke served as Chief of Naval Operations from 17 August 1955 to 1 August 1961.

ope."³⁰ The report, which was prepared in order to "develop a recommended Attack Carrier Force Level for a prolonged period of Cold War", concluded that ten attack carriers would be required in the Atlantic Fleet. In the event of conflict four of these would constitute a "task group" for the Norwegian Sea-Barents Sea. It would "cover the northern approaches to Europe" and among its primary task would be the destruction of "submarine and air bases in the Barents Sea area."³¹

³⁰ *ibid.*

³¹ *ibid.*

**CHAPTER II:
THE US, NORWAY AND THE SOVIET
NAVAL THREAT IN NORTHERN EUROPE,
1954-60**

The growth of the Northern Fleet and the Kola base complex, 1953-1960

The Baltic Fleet and the Northern Fleet:
shifting American perceptions of the naval threat
in Northern Europe after 1954

Until 1955, Anglo-American maritime concerns about Soviet intentions in European waters outside the eastern Mediterranean focused predominantly on the Baltic Sea and the defence of its three natural exits - the Sound, the Great Belt and the Little Belt. At one level, this was hardly surprising. Operating out of bases in Liepaja, Kaliningrad, Baltiisk, Tallinn, Riga, and Leningrad, the logistic facilities available to the Baltic Fleet (Baltiiskij Flot) - including ship-repair, dockyard and construction facilities - were clearly superior to those of the other Soviet fleets. Indeed, from 1954 to 1960, the Baltic fleet, measured in terms of the total number of ships and personnel strength, remained the largest of the four Soviet fleets.³² More important than logistic and gross numerical advantages, however, was the assumption - evident in early joint war plans, in the deliberations of the NAORPG and, later, in the NEC - that the Soviet Union attached the highest priority to securing the Baltic exits in the early stage of a war as part of their central front offensive across the German plain.³³ The corollary of this was the belief that the threat to

³² Siegfried Breyer, *Die Seerüstung der Sowjetunion* (Munich: J.F. Lehmanns Verlag München, 1964), pp. 4-6. By 1960, however, the tonnage of the Northern Fleet about equalled that of the Baltic Fleet. See, Wolfgang Höpker, "The Polar Sea Fleet of the Soviet Union," *The Fifteen Nations* (June 1960), p. 28.

³³ Annex J. to Hist/North/1952-53, "Exercise BLUE MOON" History of Northern European Command, 1952-53, SECCOS, HQ AFNORTH. Rolf Tammes, "Defence of the Northern Flank, 1949-56," paper presented to conference on "The North Atlantic Alliance, 1949-1956," Freiburg, 11-13 September, 1990, p. 9.

the Scandinavian peninsula came from the south. Until 1960 this remained a key planning assumption at SHAPE, one consequence of which was that the Supreme Allied Commanders in Europe, and especially their British and, later, West German subordinate commanders, continued to regard the Baltic as strategically the most important fleet area.³⁴

In the first half of the 1950s the absence of a West German navy, the weaknesses of Danish and Norwegian naval forces and the perceived importance of safeguarding the exits in support of the land-battle, ensured that the US Navy also viewed this as an area of primary strategic interest.³⁵ In the summer of 1954, the ONI commented on the fact that the heaviest concentration of Soviet naval forces was located in the Baltic.³⁶ It observed that this was scarcely coincidental and that the importance of the Baltic fleet could not "be attributed merely to the industrial expansion of the Leningrad complex."³⁷ The Baltic Fleet would also assist in the seizure of all or parts of Scandinavia since this would provide access to the Atlantic shipping lanes and also "deprive the free world of invaluable Scandinavian bases."³⁸ A naval intelligence brief a few months later noted that the "militarization of the Baltic States and the Leningrad area continues at a fast tempo" with a total of 76 known airfields that could be utilised by naval

³⁴ On the importance attached to defending Denmark and the Baltic exits in NATO planning in the 1950s, see, Tamnes, *Cold War in the High North*, p.144.

³⁵ See, "Baltic Area - Military Importance and Defence," 13 December 1950, File TS No. 7988, ONI TS Records, NHC. A clear indication of high-level concern about the area, can be seen in NSC 88, "US Courses of action in the event the Soviets attempt to close the Baltic," 17 October 1950, President's Secretary's Files, National Security Council Meetings, Harry S. Truman Library.

³⁶ "The Armed Forces of The USSR," *Secret Supplement to the ONI Review*, midsummer 1954, NHC.

³⁷ *ibid.*

³⁸ *ibid.*

aviation drawn from the Leningrad, Baltic and Northern military districts.³⁹

By the middle of the decade, however, the threat perceptions of the US Navy were beginning to change.⁴⁰ As was observed in Chapter One, signs that the US Navy was readjusting its priorities to a "northern strategy" after the early emphasis on the Mediterranean are evident well before 1955. These early indications of a growing interest in the high north had not, however, been translated into specific commitments nor had they detracted from the primary importance accorded to the Baltic area. By late 1954, the knowledge that West Germany would soon be playing an important role in the defence of the Danish straits was clearly a contributing influence on US naval policy. The principal factors, however, which prompted the growth of a *specific* American interest in the high north were, above all, the expansion of the Northern Fleet complex and the accompanying "shift in operating patterns" of the Fleet.⁴¹ More specifically, the US Navy was becoming increasingly concerned about the concentration of long-range submarines in the northern area, and by the parallel strengthening of land-based maritime air forces in the region. Both these developments were accompanied by a marked increase in the operational activities of the Northern Fleet beyond coastal

³⁹ "Intelligence Briefs," *The ONI Review*, vol. 9, no. 10, 1954, NHC.

⁴⁰ Interview with Vice Admiral Ronald Brockman, 18 March 1991. See also, Commander T.Gerhard Bidlingmaier, "The Strategic Importance of the Baltic Sea," *USNIP* 84 (September 1958), pp. 23-31.

⁴¹ Keith Allen, "The Northern Fleet and North Atlantic Naval Operations," in *The Soviet Navy: Strengths and Liabilities*, ed. Bruce W. Watson and S.M. Watson (Boulder, Colorado: Westview Press, 1986), p. 183.

waters in the Arctic.⁴² The relative shift in US Navy priorities coincided symbolically, in September 1954, with the first large movement of the Northern Fleet into the North Atlantic whence it "conducted extended manoeuvres across the top of Scandinavia and down into the Norwegian Sea."⁴³

The Development of the "Murmansk Complex," 1954-60

The report on the Kola Inlet (Kol'skii Zaliv) produced by the ONI in September 1949 had examined existing naval facilities - the principal operating bases of Vayenga (Severomorsk) and Polyarnyy and the naval station at Guba Tyuva - in terms of their *future potential* as staging bases for attacking North Atlantic shipping routes and supporting an "invasion of the Norwegian coast."⁴⁴ Close to ten years later, in March 1958, a new report about the Kola Inlet was produced. Significantly, this report discussed the base complex in terms of it being "the closest Soviet seaport, naval base, and military air centre" to the American eastern seaboard.⁴⁵ The report which, as will

⁴² Very little has been written about the development of the Northern Fleet prior to 1962. Discussions of the historical background to Soviet naval operations in northern waters usually refer to operations during the World War II, but tend to ignore the period between the war and the post-Cuban missile crisis expansion of the fleet. See, for example, Donald W. Mitchell, *A History of Russian and Soviet Sea Power* (New York: Macmillan, 1974), and relevant chapters in John K. Skogan and Arne O. Brundtland, *Soviet Seapower in Northern Waters: Facts, Motivation, Impact and Responses* (London: Pinter Publishers, 1990), and Philip S. Gillette and Willard C. Frank, *The Sources of Soviet Naval Conduct* (Toronto: Lexington Books, 1990).

⁴³ "Soviet Naval Developments Since World War II, Part II," *The ONI Review*, vol. 10, no. 5, 1955, NHC.

⁴⁴ "Kola Inlet and its Facilities," *The ONI Review*, vol. 4, no. 9, 1949, NHC.

⁴⁵ "Ports and Naval Bases of the Kola Inlet," *The ONI Review*, vol. 13, no. 3, 1958, NHC.

be shown, benefitted from both new sources of intelligence and improved coordination between US and Norwegian intelligence agencies, was far more detailed with regard to the strategic significance of the Inlet than previous studies.

Unlike other Soviet fleet areas in European waters, the inlet, being comparatively ice free the year round and only seventy-five miles from the border with Norway, had easy access to Soviet controlled waters.⁴⁶ Moreover, high and hilly land on either side of the Kola fjord was seen to provide "excellent protection for a fleet of any size."⁴⁷ According to the ONI, recent and ongoing developments included: further construction on the principal supply depot and repair base of the Northern Fleet at the Rosta naval base, indications that the area between Murmansk, Chelnopushka, and Severomorsk was under development and contained a network of naval activities, and the continued dispersal of facilities in the hilly terrain around the Inlet to provide protection against nuclear attack.⁴⁸ Furthermore, "considerable improvements" had been made to Severomorsk (formerly Vayenga) - the site of the Northern Fleet headquarters and the principal base for surface units of the Northern Fleet - whose facilities now extended to Guba Varlamova (the bay immediately westwards).⁴⁹ Other smaller surface units were based at Guba Tyuva, further north on the eastern side of the inlet. Not far from Severomorsk there was

⁴⁶ From its entrance to its head, south of Murmansk, the Kola Inlet is 30 miles long, 1 to 2 miles wide and has a limiting depth of 75 feet in fairway. The "base" in the Kola Inlet was therefore dispersed over a length of some 30 miles.

⁴⁷ "Ports and Naval Bases of the Kola Inlet," *The ONI Review*, vol. 13, no. 3, 1958, NHC.

⁴⁸ A.D. Nicholl, "Geography and Strategy," in *The Soviet Navy*, ed. M.G. Saunders (London: Weidenfeld and Nicolson, 1958), pp. 246-247.

⁴⁹ Mokhnatkina Pakhta, one and a half miles west of Chelnopushka, was listed as a naval fuel annex and ammunition transfer point. Koslyakova close to Chelnopushka was another naval port "of some significance."

also "one of the most important airfields in the Soviet Union" operated by the Air Force and with a concrete runway of 8000 feet. Clearly of greatest interest to US naval intelligence, however, was the continued expansion of Polyarnyy (and auxiliary bases) since this was the principal long-range submarine base of the Northern Fleet. Polyarnyy, originally the only port and administrative centre in the area until the founding of Murmansk in 1915, was located on the Western side of the Inlet. It was concealed from view by vessels entering the Inlet and benefitted from "excellent natural protection."⁵⁰ It was supported by additional submarine facilities nearby at Guba Olen'ya and Guba Sayda. Both of these latter bases were listed as submarine and patrol craft bases, with the former having a naval storage depot, and Guba Sayda also serving as a destroyer base.⁵¹ A further "major development in the Arctic in recent years" was the completion of a rail line running along the western side of the inlet to Polyarnyy, and from there further west to Pechenga (formerly the Finnish port of Petsamo). The ONI report of 1958 suggested that Pechenga, described as "very close to the Norwegian border," was also under development as a naval operating base for the submarines. In fact, three years earlier, in July 1955, British naval intelligence had reported that, whilst no confirmation was available, a series of submarine shelters were believed to have been constructed in the Soviet Northern Fleet area.⁵² It was thought that shelters had been built in Maatti Inlet, near Pechenga (Petsamo) and in Saida Guba, near

⁵⁰ "Soviet Submarine Bases," *The ONI Review*, vol. 12, no. 8, 1957, NHC.

⁵¹ *Guba Dolgaya Zapadnaya* east of the entrance to the Kola Inlet was listed as a naval operating base for patrol boats controlling the approaches to the Inlet. "Ports and Naval Bases of the Kola Inlet," *The ONI Review*, vol. 13, no. 3, 1958, NHC.

⁵² QIR, April to June 1955, No.4, 10 July, 1955, ADM 223/240, PRO.

Polyarnyy.⁵³ In addition to the bases in the Kola Inlet, a further report by ONI in April 1959 pointed to the growth of the Arkhangelsk complex in the White Sea area, and the "important" submarine base at Yokanga (Gremikha) on the Barents Sea coast.⁵⁴ Close to Arkhangelsk, by the delta of the Dvina river, was also located the extremely important Severodvinsk ship-building yard, a major object of US intelligence.⁵⁵

Interfleet transfers and the growth of naval aviation in the Arctic, 1954-60

From 1955 onwards there was a marked increase in the rate of interfleet transfers benefiting the Northern Fleet at the expense of the Baltic and Black Sea Fleets. Although there had been similar transfers earlier, notably during the Korean War,⁵⁶ the process intensified in the middle of the decade when units began to be redeployed in "considerable num-

⁵³ *ibid.* and "Naval Attaches Report on Russian Naval and Related Matters for the Third Quarter of 1955," ADM 1/26168, PRO. The British also reported that Severomorsk had been "considerably extended."

⁵⁴ "Vulnerability of USSR Northern Fleet to Air Attack," *The ONI Review*, vol. 14, no. 4, 1959, NHC.

⁵⁵ Until the anti-party purge in 1957, the yard was known as the Molotovsk yard. Its importance to the US stemmed from the fact that the first Soviet SSN and SSBN projects were all concentrated at Severodvinsk. Between 1958 and 1963, all thirteen of the *November* class submarines - the first nuclear-propelled attack submarine of the Soviet Navy - were built there. In 1959, the world's first SSBN, the *Hotel* class submarine, was completed at Shipyard 402 at Severodvinsk. See, N. Polmar and J. Noot, *Submarines of the Russian and Soviet Navies, 1718-1990*, (Annapolis, MA: Naval Institute Press, 1991), pp. 294-296.

⁵⁶ In the summer of 1951, two cruisers - Chapayev and Zhelezniakov - were transferred from the Baltic to the Northern Fleet. These were followed by a Sverdlov class cruiser a year later. Both transfers were described as being of "great naval significance" by the ONI. "Soviet Naval Developments Since World War II, Part II," *The ONI Review*, vol. 10, no. 5, 1955, NHC.

bers."⁵⁷ In April 1955 the largest known submarine tender, Neva, sailed from the Black Sea to Murmansk.⁵⁸ The following month, a Soviet surface force consisting of two Sverdlov-class cruisers and four Kola-class escorts were reported to have moved from the Baltic to the Northern Fleet areas, proceeding through the Great Belt and along the Norwegian coast.⁵⁹ In January 1956, the redeployment of two large naval auxiliaries, Severodonets and Leninskaya Kuznitsa, from the Baltic to the Northern Fleet was seen by British naval intelligence to be part "of the present policy of increasing the logistic support of the Northern Fleet."⁶⁰ In the light of these developments, the US Joint Intelligence Committee in February 1956 concluded that Northern Fleet's inferiority in surface vessels was "gradually being overcome by transfers from the Baltic and the output of the large yard at Molotovsk in the White Sea."⁶¹ In April and May of 1958, another six major surface combatants, including a Kotlin-class destroyer, relocated from the Baltic to the Northern Fleet. And in August and December that same year, another four Riga-class escorts made similar transfers.⁶² Although the movement of surface units from the Baltic to the Northern Fleet between 1955 and 1960 had a somewhat uneven pattern (and was occasionally

⁵⁷ JIC 558/392, "Intelligence Estimate of Soviet Bloc Capabilities and Probable Courses of Action between Now and the End of 1960," 6 February 1956, 334 JIC (12-7-55), JCS 1954-56, Rg. 218, NARA, p. 226.

⁵⁸ "Developments and trends in the Soviet Fleet during 1955," *Secret Supplement of the ONI Review*, Spring 1956, NHC.

⁵⁹ QIR, April to June 1955, no.4, 10 July 1955, ADM 223/240, PRO.

⁶⁰ QIR, January to March 1956, No.7, 10 April 1956, ADM 223/240, PRO.

⁶¹ JIC 558/392, 6 February 1956, 334 JIC (12-7-55), Rg. 218, JCS 1954-56, NARA, p. 227.

⁶² See "Soviet Navy Sorties and Interfleet Transfers," in "Developments and trends in the Soviet Fleet 1958", *The ONI Review*, vol. 14, no. 5, 1959, NHC.

followed by further redeployment to the Pacific Fleet via the Northern Sea route), the trend was clear. Moreover, it was substantiated by two further developments which the US intelligence community viewed as far more ominous: (1) the growth of Soviet naval aviation in the Arctic, and (2) the concentration of modern long-range submarines in northern bases.

In late 1953, the US Strategic Plans Division listed land-based aircraft as one of the "principal threats" to Allied shipping and control of the seas. At this time, the major challenge was seen to come from an estimated 700 BOSUN (TU-14) naval attack aircraft, specifically designed and developed for use against shipping, and some 800 to 1,000 BEAGLE light-bombers (IL-28), an aircraft originally designed for use against tactical ground targets.⁶³ The Strategic Plans Division considered the threat from the BOSUN force to be "critical in the Northeast Atlantic - Norwegian Sea - Barents Sea Area."⁶⁴ The term "critical" in the 1953 paper was inserted partly in order to impress senior administration officials about the need for a "desirable" level of attack carriers. From 1954 onwards, however, the emergence and subsequent incorporation into the Northern Fleet Air Force of a new jet-bomber, the BADGER (TU-16), became a major source of concern to naval planners. A study presented shortly after the very first appearance of the aircraft in early 1954 stated that the capability to attack Allied naval forces had been "considerably

⁶³ Little is known in the West of the BOSUN (Type-35), although the figure of 700 is almost certainly too high. Between 400 to 500 would appear to be a more accurate estimate. Jean Alexander, *Russian Aircraft since 1949* (London: Putnam, 1975) pp. 363-65.

⁶⁴ "Study of Attack Carrier Force Levels (Cold War)," A4, Box 280, Strategic Plans Division Records, NHC.

enhanced by the recent acquisition of new twin-jet swept-wing bombers."⁶⁵ The study concluded that

*the Type 39 is an ideal aircraft, entirely suited to act in an offensive role against naval forces. Its estimated speed and high-altitude performance coupled with its bomb-carrying capability, gives the Soviets an opportunity for attack against Allied naval forces which they did not previously enjoy.*⁶⁶

Once the *potential* of the BADGER against Western naval forces had been established, particularly close attention was given to any signs indicating that BADGERS were becoming operational with the Northern Fleet. Close coordination with Norwegian military authorities, relying both on visual observation in the border areas and on radar plotting of air activity in the Barents Sea area, was a vital source of intelligence for the US.⁶⁷ In the spring of 1955, the Soviet Union was reported to be showing increased interest in naval aviation operations under Arctic conditions. According to the ONI

*reconnaissance of the northern approaches indicates that the Soviet Naval aviation has an interest in the Arctic approaches and has developed some capability for arctic reconnaissance.*⁶⁸

⁶⁵ "Capabilities of the Soviet Type 39 against Allied Naval Operations," *The ONI Review: Secret Supplement*, Mid-summer 1954, NHC.

⁶⁶ *ibid.*

⁶⁷ Det Kgl. Norske Flyvåpen (Overkommandoen) til FD, 6 December 1956, "Utskiftning av radarmateriell på Vardø," A/H 011926, FD; and FST/E to FD/III, "1956 Intelligence Estimate," 18 February 1956, A/H 001580, FD.

⁶⁸ "Soviet Naval Developments Since World War II: Part II," *The ONI Review*, vol. 10, no. 5, 1955, and "Developments and Trends in the Soviet Fleet and Soviet Naval Air Force during 1954," *The ONI Review: Secret Supplement*, Spring 1955, NHC.

Later in the year the ONI devoted a separate article to the development of Soviet air power in the Arctic, and concluded that:

*The Soviet capability for air operations in the arctic is steadily on the increase. This increasing capability is a valuable by-product of a well-thought-out, long-range plan of exploitation of the northern areas for economic and military purposes.*⁶⁹

Although the continuation of the jet conversion programme in 1955 resulted in a "greatly improved ... capability for defence of seaward areas and shore installations against enemy naval, amphibious or air attacks,"⁷⁰ Soviet naval aviation in the far north remained severely handicapped by the preponderance of obsolete aircraft with limited to non-existent all-weather capability.⁷¹

Related to these developments, in the middle of the decade the US Air Force and Navy also stepped up their efforts to monitor Soviet Arctic activities in *three* other areas. These were: the use of drifting ice floes as landing strips on island

⁶⁹ "Development of Soviet Air Power in the Arctic," *The ONI Review*, vol. 10, no. 8, 1955, NHC. See also report on "significant airfield developments" in the Soviet Arctic in 1955 in "A Review of Soviet Air Developments in 1955," *The ONI Review: Secret Supplement*, Spring 1956, NHC.

⁷⁰ "Soviet Naval Aviation," *The ONI Review*, vol. 10, no. 10, 1955.

⁷¹ Units training with *Yak-25 (Flashlight)*, a twin-jet night and all-weather fighter-bomber, were active in the area round Severomorsk in 1955 and were considered operational with the Northern Fleet Air Arm the following year. Another fighter, the *Mig-19 (Farmer)* also appeared in naval aviation units for the first time in 1955. "Soviet Air Developments, 1956," *The ONI Review: Secret Supplement*, Spring-Summer 1957, NHC.

groups, the activities of scientific expeditions,⁷² and airfield construction and logistic developments in the Arctic.⁷³

In 1956, a significant strengthening of the Northern Fleet Air Force was reported when medium bombers, BADGER and the earlier piston-engined BULL, were *actually* observed near Murmansk for the first time. This development, while expected, was judged to give the Soviet Union a new and "considerable potential for attacking Allied naval forces and shipping with atomic weapons."⁷⁴ Moreover, the BADGER provided an ideal platform for air-to-surface missiles of the KOMET type of which little was known but which was believed by OPNAV to be designed for maritime operations.⁷⁵ Also in 1956, intelligence indicated a continuation of the development of major air facilities in the Soviet Arctic. The following year the ONI reported a "major increase in jet medium bombers" for the Navy along with additional indica-

⁷² Soviet radio and weather stations in the polar regions were assumed by the USAF to facilitate bomber navigation and operations in the Arctic. Similarly, studies of terrestrial magnetism in the Arctic were seen as important for assessing missile guidance requirements and extensive hydrological and bathometric measurements were designed to ensure safe submarine operations throughout the Arctic Ocean. Drifting stations were organised regularly by the Soviet Union from 1954 onwards. See "Soviet Arctic Equipment," *The ONI Review* vol. 11, no. 7, 1956. Pier Horensma, *The Soviet Arctic* (London and New York: Routledge, 1991), p. 111.

⁷³ See Cmdr. Bernard M. Kassell, "Soviet Logistics in the Arctic," *USNIP* 85 (February 1959), pp. 88-95, and Capt. R.S.D. Armour (RN), "The Soviet Naval Air Arm," in *The Soviet Navy*, ed. M.G. Saunders (London: Weidenfeld and Nicolson, 1958), p. 196.

⁷⁴ "Developments in Soviet Naval Aviation," in "Developments and Trends in the Soviet Fleets during 1956," *The ONI Review: Secret Supplement*, Spring-Summer 1957, NHC.

⁷⁵ "Soviet Air Developments, 1956," *The ONI Review: Secret Supplement*, Spring-Summer 1957, NHC. The air-to-surface missile was the AS-1 (NATO name *Kenel*), and was carried by *BULLS* and *BAGDERS* in the late 1950s. Norman Polmar, *The Naval Institute Guide to the Soviet Navy, Fifth edition*, (Annapolis, MD: Naval Institute Press, 1991), p. 381.

tions that BADGER and BULL aircraft were "very active" in the Soviet Northern Fleet Air Force. A marked increase in operational flight exercises over international waters and in the Arctic more generally was also reported to have taken place.⁷⁶

In January 1958, the ONI described how "Soviet military authorities" by introducing BADGER bombers into naval air units had succeeded in "enhancing considerably the strike capabilities of naval aviation."⁷⁷ Carriers launching strikes within the radius of shore-based BADGERS were now seen to be faced with a "serious defence problem," and later in the year this particular issue was examined in a separate article.⁷⁸ Here it was pointed out that

the principal value of the BADGER as a maritime aircraft lies in the fact that it can carry a nuclear payload at a jet speed out to 1,500 nautical miles. That distance covers our carrier launch lines, which would normally be a thousand miles out. An integral part of the BADGER threat is its capability to deliver 55 mile-range KOMET air-to-surface missile.⁷⁹

In 1958, the number of BADGERS was estimated to have increased from 165 to 290. And the Northern Fleet was the "chief beneficiary" having received 75 additional aircraft during the course of the year.⁸⁰ With a total BADGER strength of 110 the Northern Fleet had more than any other fleet. This view was shared by Norwegian military intelligence

⁷⁶ "Developments and Trends in the Soviet Fleet in 1957," *The ONI Review*, vol. 13, no. 5, 1958, NHC.

⁷⁷ "An Improved Capability of Soviet Naval Aviation," *The ONI Review*, vol. 13, no. 1, 1958, NHC.

⁷⁸ "Soviet Navy BADGER Threat Against Aircraft Carriers," *The ONI Review*, vol. 13, no. 12, 1958, NHC.

⁷⁹ *ibid.*

⁸⁰ "Developments and Trends in the Soviet Fleet, 1958," *The ONI Review*, vol. 14, no. 5, 1959, NHC.

which in early 1960 noted that the Baltic Fleet air force, unlike the Northern Fleet, had not yet been equipped with BADGERS.⁸¹ In SACLANT's Emergency Defence Plan for 1958 the air threat was assumed to have been "considerably increased" with the introduction of the BADGER bomber to the naval air arm.⁸² And, in 1960 it was finally reported that the BADGER had been equipped with the KOMET air-to-surface missile and that it had now been introduced into air regiments in the Northern Fleet area.⁸³

As indicated earlier, once the decision had been taken to bring West Germany into NATO in late 1954, the task of implementing a forward defence in and around the Baltic Approaches appeared less formidable than it had been earlier in the decade. This had the important effect of allowing the US Navy to concentrate more of its operational activity and intelligence efforts in the North Atlantic, leaving the defence of the Baltic exits to British, German and Danish forces. West German naval rearmament, which began in earnest in 1956, did indeed transform, albeit gradually, the unfavourable strategic situation which had prevailed in the Western Baltic in the early part of the decade. The *Bundesmarine* was given the tasks of denying enemy passage through the Danish straits, interrupting communications as far east as possible, and assisting in the defence of the Danish isles and the German

⁸¹ Consequently, the effectiveness of the Northern Fleet Air Force was "at least as high if not greater" than that of the numerically superior Baltic Fleet Air Force (ca. 800 versus 1100 aircraft). FST/E to F.Ramm (FD), 25 January 1960, enclosing "Soviets krigspotensial i vårt interesseområde. Luftmilitært." A/H 000849-26 Jan.1960, FD.

⁸² JP(57)146(Final) 22 November 1958, SACLANT's Emergency Defence Plan for 1958, DEFE 6/44, PRO.

⁸³ "The Soviet Air Forces in 1959," *The ONI Review*, vol. 15, no. 4, 1960, NHC.

Baltic coast near the Kiel Canal.⁸⁴ In August and September 1957, the first allied naval exercise in which the German navy took part, known as SPRING DOUBLE, was held in Danish waters.⁸⁵ Shortly after the exercise, the ONI reported that it was now "doubtful" whether a submerged submarine could transit any of the various channels through the Danish isles undetected.⁸⁶ At the same time, a paper released by the US Navy officially acknowledged that exiting the Baltic "under wartime conditions ... could be made only with great difficulty."⁸⁷ The submarine threat emanating from Russian northern bases, however, posed an altogether different problem.

⁸⁴ Jay Wagner, "The West German response to Soviet naval activity in the north," in *Soviet Seapower in Northern Waters: Facts, Motivation, Impact and Responses*, eds. John K. Skogan and Arne O. Brundtland (London: Pinter Publishers, 1990).

⁸⁵ Historical Report, HQ Allied Naval Forces Northern Europe, 1 July 1956 - 31 December 1957, SECCOS, HQ AFNORTH.

⁸⁶ "Soviet Submarine Bases," *The ONI Review*, vol. 12, no. 8, September 1957, NHC.

⁸⁷ "Russia's Growing Submarine Force Poses 'Definite Threat' To US; Now Totals 450," *The Army-Navy-Air Force Journal*, 14 September 1957.

The evolution of the Soviet submarine threat

The Soviet Union's long-range submarine programme

Although in Congressional hearings, military representatives occasionally pointed to the growing potential of the Soviet surface fleet in the 1950s, declassified documents show that it was never regarded as a serious challenge to Western *sea control* in the Atlantic.⁸⁸ Western preponderance in major and minor warships was simply too large for there to be any credible surface threat outside coastal waters and the protective cover of shore-based aviation. According to JCS estimates in 1956, the US and its allies had 359 major and minor warships in the Atlantic area. The corresponding "Soviet bloc" figure, which included the Baltic fleet, was 137.⁸⁹ Moreover, in 1955 Khrushchev finally shelved the postwar Stalinist "big navy" strategy to create a large and balanced surface fleet.⁹⁰

⁸⁸ See, for example, presentation by the Chairman of the JCS, General N.F. Twining, before Senate Armed Services Committee on 20 January 1959; JCS (6), Jan-Feb 1959, Box 4, Subject Series, DoD Subseries, WHO: Office of the Staff Secretary, DDEL. The British, as will be seen later, did take the surface threat much more seriously.

⁸⁹ "Major" warships included carriers, battleships and cruisers. Destroyers and escort vessels were counted as "minor". The Soviet Union had neither carriers nor battleships. "Comparative Tabulation of Armed Forces Strengths - 1955," JCS, 16 February 1956, (MF) (81)57a, Declassified Documents Catalog, 1981.

⁹⁰ R.W. Herrick, *Soviet Naval Strategy: Fifty Years of Theory and Practice* (Annapolis, MD: US Naval Institute, 1968), pp. 67-73. In 1956 the cruiser building programme ended and over the next four years the size of the Soviet surface fleet declined significantly.

The perceived threat from the growing force of long-range *Whisky(W)* and *Zulu (Z)* class submarines, and the parallel Soviet efforts to develop a sea-based ballistic missile capability, were seen to pose a very different set of challenges. Before turning to a more detailed examination of the impact of these developments on Norway's place in US strategy, it is necessary first to look more closely at the Soviet submarine programme and American perceptions of it. In so doing, it is useful to distinguish between two periods.

The first period, running from 1950-51 through early 1957, was characterised by a rapid growth of the actual number of submarines. The second period, from 1957 through 1960-61, saw a marked reduction in the rate of production and delivery. This did not, however, lead to any corresponding diminution of American concern about what came to be referred to as the "Red Sub Peril."⁹¹ On the contrary, against the background of *Sputnik* and of US technological breakthroughs in the field of nuclear propulsion and guided missile technology, apprehension about the submarine threat only intensified. By late 1957 the focus of intelligence acquisition had shifted towards expected *qualitative* improvements, that is, any signs of a Soviet breakthrough in the field of nuclear propulsion and/or missile-carrying submarines.

Quantitative expansion and bias in favour of the Northern Fleet, 1951-57

According to the Joint Intelligence Committee (US) in January 1956, between 1951 and 1956 the Soviet Union had launched some 180 modern long-range and 13 medium-range sub-

⁹¹ "Secret Testimony Cites 1960 Red Sub Peril," *The Register*, 6 September 1958.

marines.⁹² Again, however, it was in the latter half of 1954 that evidence of a "truly dramatic" construction programme emerged.⁹³ In the spring of 1955, the ONI concluded that "construction of long-range submarines has reached mass production level, with every indication that this level will be maintained for the time being."⁹⁴ In the late 1940s, when production of the *W* and *Z* classes began, four *W* class boats were built for each *Z* class. By 1954 the ratio had changed to ten *W* class submarines for each *Z* class.⁹⁵ The *Whisky*, the first postwar production design, was a 1050-ton derivative of the advanced snorkel-fitted German Type XXI submarine and had an estimated operational radius of 4250 miles.⁹⁶ It was assumed that the *Whisky* class would be employed "in force" as torpedo attack units against allied shipping.⁹⁷ The *Z* class, referred to as a "large oceangoing type," was an enlarged 1850-ton derivative of the K-I submarine built by the Soviet Union between 1940 and 1947. Given its extended operating radius, the *Zulu* class was thought to be ideally suited for long-range raiding as well as for supporting a large-scale

⁹² JIC 436/2, "Implications of Soviet Armaments Programs and Increasing Military Capabilities," 16 January 1956, JCS 1954-56, JIC Committee Papers, (12-28-55 through 1-17-56), Rg.218, NARA.

⁹³ Memorandum, From: OP-60, To: OP-92, 17 December 1954, Subject: Recent Acceleration in the USSR Long-Range Submarine Building Program, EF-61 (Russia), Box 307, Strategic Plans Division Records, NHC.

⁹⁴ "Developments and Trends in the Soviet Fleet and Soviet Naval Air Force during 1954," *The ONI Review: Secret Supplement*, Spring 1955, NHC.

⁹⁵ COS(M.A.)(56)2(Final) "The Role of the Russian Submarine Fleet," Report by the Maritime Air Committee, DEFE 5/72, PRO.

⁹⁶ *Jane's Fighting Ships, 1959-60* (London:Sampson Low, Marston & Co, 1959) p. 298.

⁹⁷ "Developments and Trends in the Soviet Fleet and Soviet Air Force during 1954," *The ONI Review: Secret Supplement*, Spring 1955, NHC.

submarine mine laying campaign for which there was a "traditional Russian predilection."⁹⁸

Some 107 *W* and *Z* boats had been completed by the end of 1954.⁹⁹ Developments during 1955 confirmed earlier predictions with 75 long-range and 10 short-range submarines (*Q* class) built in that year alone. The ONI noted alarmingly that the "mass production of submarines is now more apparent than ever."¹⁰⁰ It expected that the entire force of prewar boats would be replaced within the next few years. In the winter and spring of 1956, worries within the US intelligence community about the eventual size of the submarine fleet appear to have reached a high-point. In January, the JIC predicted that on the basis of existing trends another 90 long-range submarines would be built in 1956, and that a further 105 would be completed in 1957.¹⁰¹ The Soviet building programme was now described as having accelerated to a rate "never before seen in time of peace, exceeded only by the feverish effort of Nazi Germany at the height of their wartime effort."¹⁰² It was feared that "some time" in 1956, the Soviet Union would be able to keep at sea more long-range submarines of postwar design than did Germany at the very peak

⁹⁸ At the end of 1954, the Soviet Union was estimated to have over 24,000 torpedoes and 500,000 mines. "Soviet Naval Armaments Production," *The ONI Review: Secret Supplement*, Spring 1955, NHC. See also Polmar and Noot, *Submarines of the Russian and Soviet Navies*, pp. 145-50.

⁹⁹ "Indicated Employment of Soviet Submarines," *The ONI Review: Secret Supplement*, Spring 1955, NHC.

¹⁰⁰ "Developments and trends in the Soviet Fleet during 1956," *The ONI Review: Secret Supplement*, Spring 1956, NHC.

¹⁰¹ JIC 436/2, 16 January 1956, JIC Committee Papers, (12-28-55 through 1-17-56), JCS 1954-56, Rg.218, NARA.

¹⁰² "Vast Increase in Soviet Submarine Threat," *Secret Supplement of The ONI Review*, Spring 1956, NHC.

of their wartime effort.¹⁰³ By 1958, the Soviet Navy would be able to keep on patrol as many as 283 long-range and 42 medium-range submarines.

In terms of operational deployment there was a strong bias in favour of the Northern Fleet. Moreover, given the Fleet's comparatively unrestricted access to the Atlantic, it was assumed to be "logical for future dispositions to favour the Northern Fleet."¹⁰⁴ The National Intelligence Estimate for the period 1955 through 1960 provides a very clear indication of the reorientation of US intelligence and strategic concerns towards the Northeast Atlantic and the Northern Fleet area.¹⁰⁵ Whereas the number of modern long-range submarines attached to the Baltic Fleet between 1955 and 1960 was estimated to increase from 43 to 83, the corresponding increase in the Northern Fleet was from 60 to 169.¹⁰⁶

The growing importance of the Northern Fleet also appeared to be confirmed by what the ONI, NID and Norwegian military intelligence saw as a significant increase in the level of submarine tactical training and the extension of peacetime patrol areas far beyond coastal waters. Between 1954 and 1955, there had been a dramatic increase in the number of

¹⁰³ The peak of the German effort was reached in late April and early May 1943, when 240 U-boats were operational. The number of German U-boats on patrol never exceeded 120, this being the peak figure reported for 9 May 1943. J. Noakes and G. Pridham, eds., *Nazism 1919-1945 Vol. 3, Foreign Policy, War and Racial Extermination: A Documentary Reader* (Exeter: Exeter University Press, 1988), p. 853.

¹⁰⁴ "Vast Increase in Soviet Submarine Threat," *The ONI Review: Secret Supplement* Spring 1956, NHC.

¹⁰⁵ "Soviet Capabilities and Probable Courses of Action Through 1960," NIE.11-3-55, 17 May 1955, NIE No.11-3-55(5), Box 11, NSC Series - Subject Subseries, WHO: Office of the Special Assistant for National Security Affairs, DDEL.

¹⁰⁶ *ibid.*, Table 7, Estimated Bloc Naval Forces, Mid-1955, Mid 1960.

"unidentified submarine contacts" worldwide (from 157 to 211).¹⁰⁷ The number of "out-of-area contacts" had increased by fifty per cent, with most contacts taking place in the North Atlantic.¹⁰⁸ Although these figures did reflect improved detection capabilities - brought about, not least, by the introduction in 1956 of the long-range sound surveillance system (SOSUS) in the North Atlantic¹⁰⁹ - an intelligence briefing note for Eisenhower in September 1956 did stress the "marked increase in Soviet submarine patrols in areas far removed from Soviet operational waters."¹¹⁰ In his report on "Russian naval and related matters" for the third quarter of 1955, the British Naval attache in Moscow observed that 1955 had been "notable for the high intensity of training in submarine warfare" and for the emphasis that was being placed on "training under wartime conditions and also severe winter conditions particularly in the Northern Fleet."¹¹¹

¹⁰⁷ "A Summary of Submarine Contacts during 1955," *The ONI Review: Secret Supplement*, Summer 1956, NHC.

¹⁰⁸ *ibid.*

¹⁰⁹ Memorandum for Ass. Secretary of Defence (Supply and Logistics) from Director Communications-Electronics, USAF, 8 March 1956, 334 ccs (10-5-65), Box 52, JCS 1954-56, Rg. 218, NARA. Palmer, *Origins of the Maritime Strategy*, p. 82. The SOSUS line between North Norway and Bear Island, however, was not operational in the 1950s.

¹¹⁰ Staff Notes No.23, 28 September 1956, SN 16-30, Box 24, WHO: Staff Research Group Records, DDEL.

¹¹¹ "Naval Attache's Report on Russian Naval and Related Matters for the Third Quarter of 1955," ADM 1/26168, PRO.

Expected technological breakthrough and the SSBN threat, 1957-60

Although the projected production figure for the *W* class in 1956 was 80, in the latter half of the year it was becoming increasingly obvious that the Soviet naval build-up was slowing down significantly.¹¹² Evidence pointing in this direction included: the Tallin class of large destroyer was apparently limited to one ship with no new destroyer class identified; the *Sverdlov* cruiser construction programme was suspended (including work on uncompleted ships); and, most significantly, construction of the largest of the postwar long-range submarines, the *Z* class had ceased.¹¹³ In 1957, the ONI reckoned that the *Z* class construction programme had actually ended as early as in 1955, with a total of 18 delivered units. The trend continued in 1957 when production of the *W* class also came to an end, with an estimated total of 240 boats delivered.¹¹⁴ In November 1957, Allen Dulles, the CIA Director, told a Senate investigating committee that the "sharply curtailed" construction of long-range conventional submarines "probably" signalled the termination of this programme.¹¹⁵ About a year later, in October 1958, the ONI reported that submarine construction

¹¹² QIR, January to March 1957, No. 11, 10 April 1957, ADM 223/240, PRO.

¹¹³ "Developments and trends in the Soviet Fleets during 1956," *The ONI Review: Secret Supplement*, Spring-Summer 1957, NHC.

¹¹⁴ "Developments and trends in the Soviet Fleet in 1957," *The ONI Review*, vol. 13, no. 5, 1958, NHC. It is worth noting that contemporary Western estimates of Soviet submarine strength were, on the whole, remarkably accurate. It is now believed that 26 *Zulus* and 236 *Whiskys* were completed. Polmar and Noot, *Submarines of the Russian and Soviet Navies*, pp. 281-284.

¹¹⁵ "CIA Briefing for Preparedness Investigating Subcommittee of the Armed Service Committee of the Senate," 26 and 27 November 1957, A. Dulles/H. Scoville Comments before Senate Comt. (Nov.57), Box 1, Bryce Harlow Records, 1953-61, DDEL.

had "virtually ceased."¹¹⁶ Thus, the gloomiest predictions of early 1956 did not materialise and the Soviet submarine order of battle stabilised around 450.¹¹⁷

The dramatic slow-down in production did nothing, however, to reduce American concerns about the Soviet submarine threat which intensified in the summer and autumn of 1957. The basic reason for this was the conviction that the halt in production could only mean that the Soviet Union would "soon adapt missiles and nuclear propulsion to all classes of warships and return to full-scale naval construction geared to the atomic age."¹¹⁸

The prospect of a direct sea-based threat to the eastern seaboard of the continental United States had the effect of further shifting the focus of US maritime interest towards the Northeast Atlantic and Soviet northern bases. In November 1957, Dr. Herbert Scoville, head of the Office of Scientific Intelligence in the CIA, told the Preparedness Investigating Subcommittee of the Senate - convened to discuss the implications of the Sputnik launchings - that his office was "particularly interested in the large concentration of 115 long-

¹¹⁶ "Transition Period in Soviet Naval Construction," *The ONI Review*, vol. 13, no. 9, 1958, NHC. See also, QIR, January to September 1958, No.17, 10 October 1958, ADM 223/243, PRO. As for surface ships, the reduction of earlier years continued with only the *Kotlin* class destroyer and *Riga* class escorts reportedly being built in 1957.

¹¹⁷ In 1959, the most authoritative open source, *Jane's Fighting Ships*, stated that there were "about 500 submarines" in the Soviet navy. *Jane's Fighting Ships, 1959-60* (London: Sampson, Marston & Co., Ltd., 1959), p. 298. Whilst reasonably accurate, *Jane's* did tend to err on the side of overestimation.

¹¹⁸ "Transition period in Soviet naval construction," *The ONI Review*, September 1958, NHC. In testimony to the Senate Preparedness Subcommittee in January 1958, Admiral H.G. Rickover, stated that a "number of Soviet submarines" were already fitted with missiles. D.W. Morley, "Technology and Weapons," in *The Soviet Navy*, ed. M.G. Saunders, (London: Weidenfeld and Nicolson), p. 206.

range subs in the Northern Fleet area."¹¹⁹ The reason for this was partly the fleet's geographic location and partly its potential. It possessed a large number of types available for modification or conversion to guided-missile use. In the period between 1957 and 1960, Admiral Jerauld Wright, CINCLANT and overall Commander for Allied forces in the Atlantic, appears to have been particularly concerned about Soviet submarine developments.¹²⁰ And in May 1957, the British Joint Planning Staff, commenting on a recent paper by Admiral Wright noted how he was outlining "a new and major role for NATO naval forces, namely the countering of the threat from Soviet submarines armed with guided missiles."¹²¹

Given what is now known about the Soviet SSBN programme, the American concern about the potential threat of Russian missile-firing submarines operating against the eastern seaboard of the North American continent emerged surprisingly early and stood in sharp contrast to British assessments. In fact, as early as January 1954, Vice-Admiral Hughes Hallett, Chairman of the British Joint Service Mission in Washington, wrote to Admiral McGrigor, the First Sea Lord, pointing out that:

There are indications that an opinion is gaining strength within some United States and particularly United States Navy circles that the submarine, armed with the guided

¹¹⁹ "CIA Briefing for Preparedness Investigating Subcommittee of the Armed Service Committee of the Senate," 26 and 27 November 1957, A. Dulles/H. Scoville Comments before Senate Comt. (Nov.57), Box 1, Bryce Harlow Records, 1953-61, DDEL.

¹²⁰ See "Soviet Sub Capability Likened to Air Power of Reds by Admiral Wright," 8 February 1958, *Army-Navy-Air Force Journal*, and "NATO Chief's Warning on Submarine Threat," *Daily Telegraph*, 19 November 1959.

¹²¹ JP(57)59(Final), 8 May 1957, DEFE 6/41, PRO.

*missile, presents a major threat to the seaboard cities of the United States.*¹²²

This initial American concern centred around possible modifications of the Z class, and although the first successful test-firing of a guided missile from a Z class submarine was reported in 1955, the first "unusually configured" Zulu class submarine was only observed in 1956. In his letter to McGrigor in 1954, Admiral Hallett stated that "the exaggerated concept of a submarine borne atomic onslaught against the American Continent is potentially dangerous."¹²³ The Joint Planning Staff in 1957 felt that although a nuclear threat from submarine-launched missiles "may eventually materialise," it was not believed that the Soviet Union would be in "possession of sufficient submarines of the type necessary to contribute significantly to the threat of nuclear bombardment until well after 1962."¹²⁴ In 1957 and 1958, the British continued to emphasise the lack of evidence suggesting a direct application of missiles in the Soviet Navy, conceding only that a few submarines may have been "fitted to fire flat trajectory missiles, probably for trials."¹²⁵

¹²² Vice-Admiral C.C. Hughes Hallett to First Sea Lord, 7 January 1954, ADM 205/102, PRO.

¹²³ *ibid.* Admiral Hallett went on to say: "These ideas, though they may not be widely held, affirm that the thought uppermost in some US Naval minds is that the defence of the continental United States is the primary role of its naval forces."

¹²⁴ JP(57)59(Final), 8 May 1957, DEFE 6/41, PRO, and QIR, January to March 1958, No.15, 10 April 1958, ADM 223/241, PRO. This report stated that the era when Soviet nuclear submarines would enter the Fleet in "operational quantities" would only begin in 1961.

¹²⁵ QIR, January to March 1958, No.15, 10 April 1958, ADM 223/241, PRO.

Quality of US Assessments: mirror-imaging and focus on capabilities

Jan S. Breemer in his study of Soviet submarine strategy, finds it surprising that the US naval intelligence community, having discussed the prospect of a Soviet SSB threat to the US continent since the late 1940s, was "reluctant to accept the existence of a Soviet SLBM capability" until 1959.¹²⁶ In fact, as indicated above, the failure of the US naval intelligence to do so certainly did not stem from lack of willingness to present the submarine threat as a real and menacing one. On the contrary, it may be argued that even in 1959, one had to search very hard for evidence of an *operational* SLBM capability in the Soviet Navy, let alone one carried on a nuclear-powered submarine. Breemer appears to acknowledge as much, thus undercutting his own argument, by pointing out that the *Zulu V's* and the *Golfs* (the two classes which enabled the Soviet Union to claim that it had been the first country to deploy a SLBM system), "contributed little 'effective' value to its strategic posture."¹²⁷ Although the *conventional* submarine threat appeared formidable on paper,¹²⁸ the question arises as to why the US displayed such concern for the Soviet SSBN, from 1957 onwards.

¹²⁶ Jan S. Breemer, "Estimating the Soviet Strategic Submarine Missile Threat: A Critical Examination of the Soviet Navy's SSBN Bastion Strategy" (Ph.D.diss., University of Southern California, 1987), p. 48.

¹²⁷ *ibid.* p. 44. In fact, in 1961 and 1962, technical difficulties encountered by the USSR with their SLBM programme is reflected in the fact that both the *Zulus* and *Golfs* ceased deployments outside "near-home operating waters."

¹²⁸ Even here there were anomalies which did not appear to fit overall assessments. For example, in 1957 there was no confirmed information on the existence of submarine pens in the USSR. See "Soviet Submarine Bases," *The ONI Review*, vol. 12, no. 9, 1957, NHC.

Four related factors stand out. First, there was the problem of "mirror-imaging"; that is, there was a tendency to estimate Soviet advances in the areas of guided missile technology and nuclear propulsion by analogy with developments in the US.¹²⁹ Second, there were the actual technological advances made by the Soviet Union in the latter part of the decade; advances brought into sharp relief by the Sputnik launchings in October and November 1957. A third factor which appears to have influenced American perceptions was the repeated emphasis in Soviet statements on the "revolutionary" impact of advances in submarine technology and their determination to exploit this. A fourth and final factor which shaped American assessments of the nature of the Soviet submarine threat in northern waters were the perceived "gaps in Atlantic naval defences that the reductions in British naval strength [following Sandys's defence review] had opened."¹³⁰

Mirror-imaging. Early American concern about the Soviet Union's ability to launch missiles from submarines corresponded to the US Navy's first tentative experiments with two competing pilotless aircraft for use against targets ashore, the supersonic SSM-N-6 *Rigel* and the subsonic SSM-N-8 *Regulus*. Whilst the *Rigel* was abandoned in 1953, the *Regulus* was declared operational with nuclear weapons in May 1954, though the first operational deployment appears only to have taken place some two years later.¹³¹ By that time, however, the Fleet Ballistic Missile Programme (POLARIS) was under way, having been launched in late 1955 following assurances from

¹²⁹ For the problem of mirror-imaging in the area of intelligence see Abram N. Shulsky, *Silent Warfare: Understanding the World of Intelligence* (Washington, D.C.: Brassey's, 1991), pp. 64-67.

¹³⁰ Sir Richard Powell, letter to author, 14 November, 1991.

¹³¹ Memorandum, From: CNO, To: The Hydrographer, 13 July 1955, Subject: Submarine Control of REGULUS (enclosing priority target list for REGULUS), A-5, Box 315, Strategic Plans Division Records, NHC. See also, Norman Friedman, *US Naval Weapons*, (London: Conway Maritime Press, 1983), pp. 218-220.

the Atomic Energy Commission that a smaller IRBM warhead could be produced to fit a sea-based missile.¹³² During the first half of 1957, a series of technological breakthroughs were made during tests with the POLARIS missile, an important consequence of which was to influence US intelligence assessments of the future submarine threat once the Soviet Union successfully completed its own programme. In February 1957, the firing of test vehicles in the POLARIS programme "successfully evaluated a method for reversing the thrust of a solid propellant missile in flight."¹³³ The following month, the highest "total impulse ever achieved by a solid fuel rocket in this country" was attained during a POLARIS test flight. On the basis of these results, it was decided on 19 April 1957, that the POLARIS project should be given the highest priority "which would not interfere with the other missile programs and ... would not be tied to the submarine construction schedule."¹³⁴ In June, further technological hurdles were overcome, when solid propellants were used for the first time. The following month, an experimental submarine launcher for the POLARIS programme was successfully tested.

Advances in submarine technology, especially improvements in propulsion, had a similar impact on US perception about the Soviet Union.¹³⁵ The first nuclear-powered submarine, the *USS Nautilus* signalled "underway on nuclear power" on 17 January 1955. The full potential of this "new weapon of war" and its implications for Norway's place in US maritime

¹³² "Chronology of Significant Events in the US Intermediate and Intercontinental Ballistic Missile Programs," 8 November 1957, Missile Program (3), Box 4, OCB Series - Subject Subseries, WHO: Office of Special Assistant for National Security Affairs, DDEL.

¹³³ *ibid.*

¹³⁴ *ibid.*

¹³⁵ See interview with Rear Admiral Charles E. Weakley, Anti-Submarine Warfare Readiness Executive, "Could Missile Subs Operate From the North Pole Region? - Red Submarine Threat termed 'unparalleled in history'," *The Register*, 29 March 1958.

strategy, became even more apparent in August 1958 when the *Nautilus*, journeying from Hawaii to Iceland, navigated under the North Pole ice cap.¹³⁶ This newest achievement of the *Nautilus*, wrote Hanson Baldwin, veteran military columnist of *The New York Times*, had "immense strategic implication."¹³⁷ As Baldwin put it, the "missile firing submarine manoeuvring in the Arctic opens a new strategic frontier. The whole vast Arctic coastline of Russia is potentially open to assault."¹³⁸ A report prepared by the Underseas Warfare Advisory Panel to a Senate subcommittee was released on "the heels of the exploits of the *Nautilus* and *Skate*" and spoke of a "grossly inadequate" ASW capability to meet the Soviet undersea challenge.¹³⁹

Soviet Technological Achievements. The tendency towards mirror-imaging and the *capabilities-orientated* approach to intelligence assessment, were reinforced by real evidence of Soviet technological prowess. The launchings of *Sputnik I* and *II* in 1957, in particular, seem to have heightened American concern about an imminent breakthrough in the Soviet submarine-launched missile programme.¹⁴⁰ Although Eisenhower himself does not seem to have been unduly alarmed by the Soviet missile launches, the psychological reaction elsewhere

¹³⁶ This trip was immediately followed by another sub-polar voyage by the *USS Skate*. "Skate' Trip's Military Value Is Praised," ("Professional Notes"), *USNIP* 84 (October 1958), pp. 129-30.

¹³⁷ Hanson Baldwin, "Strategic Value of the Arctic Proved - Suitable as a Site to Launch Guided Missiles," *The Daily Telegraph*, 9 August 1958.

¹³⁸ *ibid.* Similarly, on the perceived implications for the Arctic as an area of strategic pivot, see A.F. Talbert, "Polar Routes Envisioned As Increasingly Vital," *USNIP* 84 (October 1958), pp. 130-132.

¹³⁹ "Secret Testimony Cites 1960 Red Sub Peril," *The Register*, 6 September 1958.

¹⁴⁰ David A. Anderton, "Details of Sputnik Surprise Scientists," *Aviation Week*, 21 October 1957.

showed just how deeply entrenched the belief had become that the American continent was invulnerable to direct external threats.¹⁴¹ This only reinforced the tendency to impute capabilities and technological achievements on the USSR not warranted by existing intelligence.¹⁴²

Soviet statements on seapower. From 1955 onwards, the expansion of the Soviet submarine fleet was accompanied by repeated statements - official and un-official made at all levels of the Soviet hierarchy - to the effect that the Soviet Navy was now concentrating its efforts on achieving an SLBM capability. Nikita Khrushchev, who had consolidated his power base in 1955, was particularly impressed by the possibilities which the application of guided missiles to submarines appeared to offer.¹⁴³ In April 1956, the British Naval Attache in Moscow, Captain G.M. Bennet, travelled with Khrushchev and Bulganin aboard the *Sverdlov* class cruiser *Ordzhonikidze* en route to Portsmouth. In his report, Bennet emphasised how Khrushchev had "made a big point of the importance to the Soviet Union of the submarine fleet."¹⁴⁴ "These, he said, properly armed with guided missiles, would be what they most required and would even be able to attack the United States."¹⁴⁵ In a much-publicised interview with UP correspondent

¹⁴¹ A good illustration of the public anxiety which the emerging "submarine peril" engendered after Sputnik can be seen in a *Newsweek* article devoted to the subject in August 1958. "Missile-Firing Sub: New Space-Age Weapon," *Newsweek*, 25 August 1958.

¹⁴² S. Ambrose, *Eisenhower: The President, Vol. II* (New York: Simon and Schuster, 1984), p. 423.

¹⁴³ Polmar and Noot, *Submarines of the Russian and Soviet Navies*, p. 152.

¹⁴⁴ "Aboard a Soviet Cruiser," (Excerpts from report by Capt. A.P.W. Northey, D.S.C., RN), *The ONI Review: Secret Supplement*, Autumn 1956, NHC.

¹⁴⁵ *ibid.* The British attache also wrote that Khrushchev "appeared completely fascinated by the possibilities of guided missiles in any role."

Shapiro on 14 November 1957, Khrushchev told Shapiro in his usual blustering manner that it was possible to keep "all of America's vital centres under fire from submarines and with the help of ballistic missiles, to blockade the United States coast."¹⁴⁶ Soviet military writers, notably from 1957 onwards, also discussed at length the potentiality of submarine-launched missiles against the continental United States.¹⁴⁷

¹⁴⁶ "Soviet Propaganda on Missile Launching Submarines," *The ONI Review*, vol. 14, no. 2, 1959, NHC, and "Selected Quotations from Soviet Leaders' Statements," 23 January 1959, Committee mailings no. 33 thru no. 39, US President's Committee to Study the US Military Assistance Program (Draper Committee), Records, 1958-59, DDEL.

¹⁴⁷ See, for example, article by Marshal Vasilevsky, "Dangerous Boasting," *Red Star*, 14 August 1957, and "Answers of General Commander of the Air Force Marshal K.A. Vershinin," *Pravda*, 8 September 1957 (both articles kindly translated by Maxim Shashenkov, Nuffield College, Oxford).

Norway's intelligence contribution

Norway's geographic location placed it in an ideal position to observe the transfer of units between fleet areas as well as to monitor the increased level of submarine training and the build-up of facilities on the Kola Peninsula. In the first half of the decade, however, coordination and reporting mechanisms between US and Norwegian authorities were poorly developed. For example, an intelligence memorandum in the summer of 1952, commenting on the transfer of Soviet cruisers from the Baltic to the Northern Fleet the previous year, observed that Norwegian surveillance on that occasion had been "wholly inadequate."¹⁴⁸

It was the movement, in the late summer of 1954, of a large Soviet task force out of its northern bases which led directly to an American initiative that sought both to increase intelligence and reconnaissance efforts in the area, and to coordinate these more closely with Norwegian military authorities. In November 1954 the Director of Naval Intelligence, Rear Admiral Carl F. Espe, described the recent "operations in the Norwegian Sea, when the entire cruiser strength of the Northern Fleet accompanied by 12 destroyers moved out of the restricted area of the Barents Sea for an extended exercise ... as an object lesson of the changes taking place in the Soviet navy."¹⁴⁹ The Soviet exercise had also brought home another lesson: the weaknesses of Western reconnaissance capabilities in the area. In a letter to Admiral Jerauld Wright (CINCLANT) on 9 November 1954 the Chief of Naval Operations, Admiral Robert Carney, noted that in view of the "lack

¹⁴⁸ Memorandum, 16 July 1952, Subject: Possible Exit of USSR Cruisers from the Baltic Sea, A16-12, Box 274, Strategic Plans Division Records, NHC.

¹⁴⁹ "The Changing Soviet Concept of Sea Power: An Editorial," *The Oni Review*, vol. 9, no. 11, November 1954, NHC.

of adequate reconnaissance ... as evidenced by the recent sortie of Soviet Naval Forces," existing inter-service or bilateral agreements for fleet intelligence gathering in the East Norwegian Sea and North Cape area had to be reexamined.¹⁵⁰ In his response to this query, Admiral Wright noted that "the interest in this problem was engendered ... by the intensification of the threat which could be imposed on the security of the US by the unobserved movement of Soviet naval forces in this part of CINCLANT's area of responsibility."¹⁵¹ Although Norway in 1951 had assumed joint responsibility for reconnaissance of the East Norwegian Sea and North Cape area, no agreements for continuous reconnaissance in peacetime had been worked out.¹⁵² While Admiral Wright felt that responsibility for reconnaissance of Soviet naval activity in the area should be a "United Kingdom and/or Norwegian task," he gave his qualified approval of a draft plan referred to as "Operation Project SQUINT".¹⁵³ The project, which included the implementation of measures to obtain photographic and electronic countermeasures intelligence in addition to visual reconnaissance and tracking, was indicative of the steadily growing preoccupation in the mid-1950s with developments in and around the Kola peninsula.

¹⁵⁰ Memorandum, CNO to CINCLANT, 9 November 1954, Subject: Reconnaissance of the East Norwegian Sea, North Cape Area, Folder TS 1955, Box 330, Strategic Plans Division Records, NHC.

¹⁵¹ From: CNO to: JCS, Subj: Reconnaissance of Uninhabited Areas, 14 April 1952, A1, Box 271, Strategic Plans Division Records, NHC.

¹⁵² Memorandum, CNO to CINCLANT, 9 November 1954, Subject: Reconnaissance of the East Norwegian Sea, North Cape Area, Folder TS 1955, Box 330, Strategic Plans Division Records, NHC.

¹⁵³ Memorandum, CINCLANT to CNO, 28 January 1955, Subject: Reconnaissance of the East Norwegian Sea - North Cape Area, Folder TS 1955, Box 330, Strategic Plans Division Records, NHC.

Further evidence of this occurred the following year, when the US Navy began to formulate plans for conducting submarine intelligence operations in the High North, a task which had hitherto been entrusted to the Royal Navy. In a letter to the First Sea Lord, Lord Mountbatten, in October 1956, Vice-Admiral R.F. Elkins, UK Standing Group representative in Washington, reported on recent US submarine activities.

What has surprised us here has been to discover the scale of these USN submarine intelligence operations. No less than 6 submarines were on patrol between August and October, covering the Siberian end of the Northern Sea Transfer... The USN have been doing this sort of thing with immunity from Russian interference since 1952, and it is evident that at present Soviet AIS measures are such that our submarines might meet little opposition in peace or war.¹⁵⁴

Not long after this report, the US Navy instituted similar operations covering the Murmansk coast and the Barents Sea end of the Northern Sea Transfer. In February 1957, the USS *Tirante* was scheduled to carry out the first "northern patrol" in what the ONI hoped would be "a series of patrols to provide thorough coverage of the Northern Fleet by submarine reconnaissance."¹⁵⁵ According to the British officer briefed about the US operations, the reason for initiating these patrols was twofold. First, Britain, having cancelled a programme of operations along the Murmansk coast, was

no longer providing sufficient cover in an area where we have hitherto been a productive and reliable source; secondly, having recently been given access to the reports of our own submarine operations off the Murmansk coast, the USN have been able to persuade the State Depart-

¹⁵⁴ From Vice-Admiral R.F. Elkins to First Sea Lord, 16 October 1956, ADM 205/110, PRO.

¹⁵⁵ From Vice-Admiral R.F. Elkins to First Sea Lord, 31 September 1956, ADM 205/110, PRO.

ment of the feasibility and value of such operations, and that the risks of detection are negligible.¹⁵⁶

In 1956-57, both SOSUS and submarine patrols were supplemented by electronic intercepts of submarine communications from Norway covering the Northern Fleet area.¹⁵⁷ In 1956, the Norwegian Defence Intelligence Staff stepped up its sea-based electronic surveillance when a US equipped vessel, *Eger*, was launched and began monitoring Soviet naval activity in northern waters.¹⁵⁸ Aerial reconnaissance was a further source of information on submarine developments in the High North.¹⁵⁹

Norway's contribution to the monitoring of submarine activity can be gauged by a survey of the monthly scores of submarine contacts, which the ONI began to produce in September 1958.¹⁶⁰ On 11 September 1958, for example, ONI records show that a submarine was "contacted" by a Norwegian trawler off the Norwegian coast.¹⁶¹ On 24 March, 1959, a

¹⁵⁶ *ibid.* Britain had been gathering intelligence along the Murmansk coast in an operation called PONTIAC. The cancellation of the operation and the American decision to conduct operations in the Murmansk area herself is yet another indication of growing American involvement in the region.

¹⁵⁷ Norman Friedman, *The Naval Institute Guide to World Naval Weapons Systems, 1991/92* (Annapolis, MD: Naval Institute Press, 1991), p. 802.

¹⁵⁸ Christensen, *Vår Hemmelige Beredskap*, pp. 143-46.

¹⁵⁹ Tammes, *Cold War in the High North*, 1990, pp. 129-132. Plans were certainly considered for more U-2 flights in the "extremely important" northern sector in 1959 and 1960. Memorandum, 12 February 1959, Intelligence Material (8)[Jan.-Feb.1959], Box 15, Subject Series, Alpha, WHO: Office of the Staff Secretary, 1952-61, DDEL.

¹⁶⁰ "Monthly Box Score of Submarine Contacts," *The ONI Review*, vol. 13, no. 9, 1958, NHC.

¹⁶¹ "Monthly Score of Submarine Contacts," *The ONI Review*, vol. 14, no. 3, 1959, NHC.

Norwegian radar station spotted a submarine on the northeast coast of Norway.¹⁶² Both these cases show that the reporting system between Norwegian and US authorities had improved markedly since the early attempts at coordinating intelligence efforts in the area.¹⁶³

Norway also held a particularly close watch on Soviet Union's North Atlantic fishing fleet. From 1957 onwards, as increasing attention was paid to limited war scenarios in the NATO area, the US Army, Marine Corps and Navy displayed an ever-growing concern about the "real intentions" of the Soviet merchant and fishing fleets in the Norwegian and Barents Sea. They were seen as an "ever-present threat to the military security of certain sensitive, areas, such as North Norway and Iceland."¹⁶⁴ In early 1957, over 2,000 ships were assigned to Soviet shipping companies in Northern Europe, with as many as 300 trawlers observed together in the Norwegian sea at one time. In June 1957 the ONI noted how the Soviet fishing fleet had begun to appear in large numbers year-round in the Norwegian sea in 1950-51. While the report was careful to conclude that the Soviet vessels were not "necessarily" engaged in "sinister, political or intelligence activity," the fleet did have every opportunity to "obtain up-to-date and detailed information on coastline beaches, and water depth for possible

¹⁶² "Monthly Box Score of Submarine Contacts," *The ONI Review*, vol. 14, no. 7, 1959, NHC. Both these contacts were classified as positive by OPNAV.

¹⁶³ A plotting of these ONI reports indicates clearly that the highest incidence of contacts occurred in the North Atlantic.

¹⁶⁴ Jürg Meister, "The Soviet Merchant Ships and Fishing Fleets," in *The Soviet Navy*, ed. M.G. Saunders (London: Weidenfeld and Nicolson, 1958), p. 232. See also Hanson W. Baldwin, "Versatile Fishermen: But the Soviet Fleets Will Have a Task To Track New US Polaris Submarine," *New York Times*, 22 November 1960.

future amphibious landings on Iceland, the Faroes, the Norwegian coast, and other northern European areas."¹⁶⁵

Conclusion

American concern about the growth of Soviet naval power in the Northern Fleet area had two basic consequences for Norway. First, it gave Norway a critical role in US efforts to keep abreast of Soviet military, commercial and scientific activities in the Northeast Atlantic and the Arctic regions. In particular, US attempts to monitor the expansion of the Soviet long-range submarine fleet and naval aviation in the Arctic, came to depend crucially on close collaboration with the Norwegian Defence Intelligence Staff. Second, the increasing salience of the Northern Fleet meant that in the mid-fifties the US Navy began to concentrate a greater share of its *strategic* and *logistic planning* efforts towards sustaining operations in the Arctic. The increase in US operational activities in the area from 1955 onwards reflected Norway's changing and increasingly important role in US maritime strategy.

¹⁶⁵ "The Soviet North Atlantic Fishing Fleet," *The ONI Review*, vol. 12, no. 5, 1957, NHC.

CHAPTER III
THE US NAVY, NORWAY
AND THE 'NEW LOOK',
1954-57

Postwar American Maritime Strategy and the 'New Look'

To President Eisenhower, the Korean War had demonstrated that conventional wars against communist-inspired forces were likely to be both costly and inconclusive.¹⁶⁶ By 1954, the new Republican administration had completed its first review of "basic national security policy," designed to solve Eisenhower's great equation of maintaining a strong defence at a bearable cost. To do this, emphasis was to be placed on strategic air power, the integration of nuclear weapons into tactical units and the establishment of a strategic reserve in the continental United States.¹⁶⁷ At the same time, overall manpower ceilings were to be substantially reduced and greater reliance placed on allies for initial ground defence. A JCS Memorandum for the Secretary of Defense in December 1953 succinctly summarised the rationale behind the change of policy.

... there is a need for a reorientation of our military strategy toward placing greater reliance upon the capabilities of new weapons as a means for exploiting our technological advantages over the USSR, of reducing the effect of the manpower differential between us and the Soviet bloc, and of enabling us to reduce our over-all military expenditures. To this end, our superiority in atomic weapons must be exploited to the maximum.¹⁶⁸

¹⁶⁶ Dwight D. Eisenhower, *Mandate for Change 1953-1956* (London: Heinemann, 1963), p. 435.

¹⁶⁷ Watson, *History of the JCS, Vol. 5*, pp. 35-37. See also 'Strong US Defence for the 'Long Pull' - Interview with Admiral Arthur W. Radford, Chairman, JCS,' *US News & World Report*, 5 March 1954.

¹⁶⁸ Memorandum for SecDef, 9 December 1953. Subject: Military Strategy and Posture, ccs (381, US (1-13-50) sec.32., Box 2, JCS 1954-56 (Geographic File), Rg.218, NARA.

The force levels agreed by the JCS in December 1953 reflected these priorities, with the Air Force as the main beneficiary.¹⁶⁹ In terms of actual reductions, the Navy was less severely affected than the Army, with force levels for 1957 set at 1,030 active ships and a personnel strength of 650,000.¹⁷⁰ However, in order to secure its share of future defence appropriations, it was forced to adapt to the new priorities of the administration. This it did by upgrading its overall nuclear strike capability and by publicly presenting its carriers as thermonuclear weapons systems essential to the strategic deterrence mission.

Although the Navy had developed a rudimentary atomic capability in 1949 (using a modified version of the Neptune patrol bomber (P2V-3C)), in September 1951 it still only had 48 aircraft (AJ-1 Savage) designed to deliver the atomic bomb.¹⁷¹ Only 27 of these had been assigned to operating squadrons.¹⁷² In 1952 no allocation of weapons to various commanders had been agreed upon, nor had a "procedure for the use of atomic weapons in direct support of land operations" been established.¹⁷³

¹⁶⁹ JCS 2101/113, Enclosure 'A' Military Strategy to Support the National Security Policy Set Forth in NSC 162/2, 10 December 1953, ccs 381, US (1-13-50) sec.32., Box 2, JCS 1954-56 (Geographic File), Rg.218, NARA. See also Divine, *Eisenhower and the Cold War*, p. 37.

¹⁷⁰ 'Summary of Joint Papers Having to do with Naval Force Structures since the New Look,' 9 December 1953, L(1), Box 322, Strategic Plans Division Records, NHC.

¹⁷¹ Memorandum, From: CNO, To: JCS, 7 September 1951, Subject: Navy Atomic Capability, A16-10, Box 264, Strategic Plans Division Records, NHC.

¹⁷² Ibid.

¹⁷³ Memorandum, From: D/CNO (Air), To: D/CNO (Operations), ND, Subject: Planning for the Use of Atomic Weapons, A16-10, Box 274 (1052), Strategic Plans Division Records, NHC.

By 1954, however, a JCS report on the status of US military programmes noted that

*... the Navy has acquired a powerful and flexible atomic weapon delivery capability within its carrier task forces and this capability is increasing. Atomic weapons are available on very short notice in the forward areas, where attack carriers are deployed.*¹⁷⁴

By 1955 all attack carriers - fifteen were in commission - carried nuclear weapons.¹⁷⁵ In March of the following year the A3D-1(A-3) Skywarrior all-weather heavy attack bomber entered operational service. In September 1956, the entry into service of the A4D Skyhawk, further strengthened the nuclear projection capabilities of the Navy.¹⁷⁶ In the mid-1950s the Navy also revised the composition of its carrier air groups by increasing the ratio of nuclear attack squadrons to fighter aircraft.¹⁷⁷

¹⁷⁴ JSPC 851/112, Status of US Programs for National Security as of 30 June 1954, ccs 381 US (1-13-50) sec.41, Box 32, JCS 1954-56 (Geographic File), Rg.218, NARA.

¹⁷⁵ David Rosenberg, 'Arleigh Burke,' in *The Chiefs of Naval Operations*, ed. Robert W. Love, Jr. (Annapolis, MD: Naval Institute Press, 1980), p. 276.

¹⁷⁶ The first models of the Mark-5 bomb, a lightweight strategic nuclear weapon, and the Mark-7 bomb, the first truly tactical nuclear weapon in the US arsenal, were deployed with naval attack aircraft in 1952-53. The AJ-1, AJ-2 and, later, the A3D were designed to act as strategic bombers forming heavy attack squadrons (VHAs), while a range of other aircraft, including F2H, F3H-2N and FJ-4B, were assigned a tactical role. James N. Gibson, *The History of the US Nuclear Arsenal* (London: Bison Books Ltd., 1989), pp. 82-84, and George F. Eliot, 'Seaborne Deterrent,' *USNIP* 82 (November 1956).

¹⁷⁷ Norman Polmar, *Aircraft Carriers: A Graphic History of Carrier Aviation and its Influence on World Events* (London: MacDonald & Co., 1969), pp. 598-601.

Although the Navy made "every effort ... to conform to the national security policy adopted in October 1953,"¹⁷⁸ the basic reorientation of postwar maritime strategy did not fundamentally change. This reorientation, which had crystallised in 1946-47 during Admiral Forrest Sherman's tenure as Deputy Chief of Naval Operations,¹⁷⁹ was succinctly described in an article by Samuel Huntington published in the May 1954 issue of *US Naval Institute Proceedings*.¹⁸⁰

The article examined the emergence of a "new naval doctrine" evident in the "writings of postwar naval writers and leaders."¹⁸¹ At the root of the new doctrine was "the theory of the transoceanic navy, that is, a navy oriented away from the oceans and towards the land masses on their far side."¹⁸² America's ideological and military adversary in the Cold War was above all a *continental power* and not a *maritime power*. Indeed, in 1955, the US Secretary of the Navy acknowledged that shortcomings in surface and air striking power meant that the "Soviet navy could not hope to guarantee the safety of shipping far beyond its coasts or to make landings and support land forces at points far removed from its Eurasian bases."¹⁸³ The purpose of the postwar transoceanic Navy was

¹⁷⁸ David A. Rosenberg, "American postwar air doctrine and organization: the navy experience," in *Air Power and Warfare, Proceedings of the Eighth Military History Symposium, USAF Academy, 1978* (Washington, DC: Office of Air Force History, 1979), p. 269.

¹⁷⁹ Palmer, *Origins of the Maritime Strategy*, chapter one.

¹⁸⁰ Samuel P. Huntington, "National Policy and the Transoceanic Navy," *USNIP* 80 (May 1954).

¹⁸¹ *ibid.*, p. 488.

¹⁸² *ibid.*

¹⁸³ Semiannual Reports of the Secretary of the Navy, 1 Jan. 1954 to 30 June, 1954 (Washington, DC: USGPO, 1955).

*not to acquire command of the sea but rather to utilize its command of the sea to achieve supremacy on land. More specifically, [it was] to apply naval power to that decisive strip of littoral encircling the Eurasian continent.*¹⁸⁴

While Staff Colleges were reluctant to reject the supposed "underlying fundamentals of universal application" identified by Mahan, internal documents show that the Navy leadership had come to view power projection along the Eurasian littoral as the principal mission of the navy in war.¹⁸⁵ In a study completed in 1956, Admiral Jerauld Wright, SACLANT and Commander of the US Atlantic Fleet, stated that to gain and maintain "sea control of vital areas in the Atlantic" he would "destroy Soviet naval and air bases and other sources of Soviet sea power threatening ACLANT."¹⁸⁶ Furthermore, he would "participate in the general nuclear offensive by use of sea-based delivery systems ... support NATO land and air campaigns, and ... conduct amphibious operations and counter enemy amphibious operations."¹⁸⁷

This predilection for forward, offensive operations represented the logical outcome of a redefinition of the relationship between two of the traditional functions of sea power in war: *sea control* and *power projection*. These tasks were increasing-

¹⁸⁴ Huntington, "The Transoceanic Navy," pp. 490-491. With the development of sea-based ballistic missile systems in the latter half of the decade, naval action would also have a potentially decisive bearing on operations in the *interior*.

¹⁸⁵ Admiral Robert C. Carney, (CNO from 1953 to 1955), "Principles of Sea Power," *USNIP* 81 (September 1955). See also John Hattendorf, "American thinking on Naval Strategy 1945-1980," in *Maritime Strategy and the Nuclear Age*, ed. Geoffrey Till (London: The Macmillan Press Ltd., 1984), p. 62.

¹⁸⁶ Annex to JP(56)173(Final), "Pattern of Naval Forces For NATO Control of the Atlantic During the Next Decade," 16 November 1956, DEFE 6/37, PRO.

¹⁸⁷ *ibid.*

ly seen, by the US Navy in particular, as mutually reinforcing; that is, *power projection* against submarine and bomber bases on land had become an integral part of securing *sea control*.¹⁸⁸ As Sokolsky makes clear, throughout the 1950s the battle for the control of the Atlantic was not conceived of in terms of major fleet action on the high seas. It would instead be "a question of projecting American power on to the periphery of Europe in the face of formidable Soviet undersea forces."¹⁸⁹

The tendency for sea control and power projection functions to merge was not, however, merely a reflection of changed geopolitical circumstances. It was also a result of the impact which rapid technological change was exerting on fleet action, especially in the areas of firepower, ship propulsion, jet-aircraft and guided missile technology, sensors and communications.¹⁹⁰ In his semiannual report for 1956, the Secretary of Defense, Charles Wilson, took note of the progress which had been made in the "Navy's gradual transition from steam to nuclear power, from guns to guided missiles, from TNT to atomic weapons, and from propeller to jet aircraft."¹⁹¹ And

¹⁸⁸ Norman Friedman, *The Postwar Naval Revolution* (London: Conway Maritime Press, 1986), pp. 22-23, and Wayne P. Hughes, Jr., *Fleet Tactics: Theory and Practice* (Annapolis, MD: Naval Institute Press, Maryland, 1986), p. 218.

¹⁸⁹ Joel J. Sokolsky, *Seapower in the Nuclear Age: The United States Navy and NATO 1949-80* (London and New York: Routledge, 1991), p. 9.

¹⁹⁰ L.W. Martin, *The Sea in Modern Strategy* (London: Chatto & Windus, 1967), p. 10, and, Malcolm W. Cagle, "A Philosophy for Naval Atomic Warfare," *USNIP* 83 (March 1957), pp. 250-51.

¹⁹¹ Semiannual Report of the Secretary of Defense, 1 Jan. 1955 to June 30, 1956 (Washington, DC: USGPO 1957), p. 4. The most notable signs of transition in the mid-1950s included the commissioning in September 1954 of the *USS Nautilus* (SSN-571), the first nuclear-powered submarine, followed shortly thereafter by *USS Seawolf*, launched in July 1955. The world's first guided missile cruiser, *USS Boston*, joined the fleet in 1956. And, finally, between 1955 and 1958, four new *Forrestal* class heavy attack carriers (*Forrestal*, *Saratoga*, *Ranger*, *Independence*) - authorised by Congress at the rate of one per year in the wake of the Korean War - joined

Admiral Wright, in his aforementioned study, claimed that, given the "trends in technological developments," attacks at source were the "only effective counter to the ballistic missile in sight."¹⁹²

The basic structure of the postwar Navy reflected the shift in thinking, with fast attack carrier task forces forming the centrepiece of the surface fleet.¹⁹³ So did changes in *tactical doctrine* away from the traditional concern with the concentration of force at sea in preparation for a decisive engagement, to an increasing emphasis on the principle of dispersion for defensive purposes at sea (to minimize the dangers of atomic destruction), and "concentration at or over the target on land."¹⁹⁴

In early 1947 Admiral Sherman's specific ideas for war with the Soviet Union had focused on forward employment of *conventional* carrier task forces in the Mediterranean theatre.¹⁹⁵ By 1954, *power projection along the littoral* was still a central feature of US maritime strategy, though carrier task forces were now heavily oriented towards nuclear operations. There was, however, one further important difference between the situation in 1947 and 1954: the Mediterranean was no longer viewed as the single most vital theatre of operations.

the fleet.

¹⁹² Annex to JP(56)173(Final), 16 November 1956, DEFE 6/37, PRO.

¹⁹³ Floyd D. Kennedy Jr., "The Creation of the Cold War Navy, 1953-1962", in *In Peace and War: Interpretations of American Naval History, 1775-1978*, ed. Kenneth J. Hagan (Westport, Connecticut: Greenwood Press, 1978), p. 310.

¹⁹⁴ Huntington, "The Transoceanic Navy," p. 493; see also Semiannual Reports of the Secretary of the Navy, Jan.1 1954 to June 30, 1954 (Washington, DC: USGPO, 1955), p. 158.

¹⁹⁵ See Chapter One.

SACLANT and the Northern Seas as a "critical area"

In late 1953, as the governing directives for the New Look were being finalised by the JCS, the Navy's Strategic Plans Division had designated the "Northern Seas" (the Northeast Atlantic, Norwegian Sea and Barents Sea), as a "critical area" to the security of the United States.¹⁹⁶ Its "critical" nature derived from the fact that

*the Barents Sea is the attack route to the only significant submarine base for Atlantic submarines now available to the Soviets. With the Bosphorus and Baltic exits sealed, Soviet submarines must be operated from their northern bases.*¹⁹⁷

Since long-range submarine bases in the Kola Inlet and the White Sea areas were "sufficiently remote to preclude almost all air attacks with fighter cover save those from mobile bases," preparations had to be made for the US to conduct forward offensive carrier operations to neutralise the submarine threat at source.¹⁹⁸ Outlining the rationale for such operations, the Strategic Plans Division concluded:

The destruction of Soviet submarine bases by air attack is now possible using penetration type atomic bombs. Positive and accurate results can be assured by the use of dive-bombing delivery tactics with adequate fighter escort. Similar tactics against Soviet naval airfields are the answer to the Soviet naval air threat to shipping. In this manner, the Soviet submarine and air threat can be reduced to such an extent that the Allied shipping on the high seas can be adequately protected by the relatively

¹⁹⁶ "Study of Attack Carrier Force Levels (Cold War)," 13 October 1953, A4, Box 280, Strategic Plans Division Records, NHC.

¹⁹⁷ *ibid.*

¹⁹⁸ *ibid.*

*meagre escorting forces which will be available. Europe is a large peninsula attached to the Eurasian continent. Carrier based aircraft with their fighter escort, can successfully attack this European peninsula operating from the Mediterranean, and the Barents and Norwegian Seas.*¹⁹⁹

These views reflected a growing appreciation within the naval establishment, and especially within ACLANT, of the strategic significance of the Northeast Atlantic.²⁰⁰ In September 1955, Admiral Robert Carney, having just retired as the Chief of Naval Operations, published a long essay in *Proceedings* on the "Principles of Sea Power." Summarising his ideas on sea power in the nuclear age, Carney emphasised how the "future of Denmark and Norway" as well as that of Germany and Britain, "would be gravely threatened without Allied ability to control both the North and Norwegian Sea areas."²⁰¹ Not surprisingly, therefore, when the Joint Strategic Plans Committee the following month recommended that the Navy Department re-appoint to Norway a Chief of the MAAG with the rank of Rear Admiral, it emphasised that departmental interest in the appointment derived from the relationship of the country in question "to the strategic plans and military objectives of the United States."²⁰²

It was, above all, the "strategic plans and military objectives" of SACLANT (who was also Commander of the US Atlantic Fleet) which impinged upon Norway's place in US strategy.

¹⁹⁹ *ibid.*

²⁰⁰ Interview with Admiral Arleigh Burke, 18 July 1990, Fairfax, Virginia.

²⁰¹ Admiral Robert B. Carney, "Principles of Sea Power," *USNIP* 81 (September 1955), p. 975.

²⁰² JSPC 980/120, Selection of Chiefs JUSMAGS/MAAGS, 11 October 1955, ccs 092 (8-22-46)(2), sec.18, JCS 1954-56, Rg.218, NARA.

And it is important, therefore, to consider briefly the relationship between SACLANT's *national* and *alliance* command responsibilities. Although the title of SACLANT implied international command responsibilities, both Admiral Lynde McCormick and his immediate successor, Admiral Jerauld Wright, acted first and foremost as *national* commanders. In part, this was because they only exercised peacetime command authority over the employment of the US Atlantic Fleet (the Second Fleet). Equally important, however, was the assumption that a general war would necessarily involve an intense initial nuclear exchange and a *fast-moving* land-battle in Europe. This expectation led Admiral Wright in 1955 to state that all his plans were predicated on the assumption that "initial deployments and operations are the same in almost all cases whether forces remain under US command or are transferred to NATO commanders."²⁰³ A final factor which also had the effect of reinforcing American dominance within the ACLANT planning process arose from the fact that the principal naval force at the disposal of the Alliance in the event of war, the *Strike Fleet Atlantic*, was organised as a *separate operational command* directly subordinate to SACLANT.²⁰⁴ Thus, whereas political and national sensitivities invariably intruded into SACEUR's planning process, SACLANT's concept of operations came to reflect more closely the strategic priorities and interests of the US Navy.²⁰⁵

²⁰³ CINCLANTFLT's Annual Report for 1955, quoted in Sokolsky, *Seapower in the Nuclear Age*, p. 74.

²⁰⁴ Philip Wyman, "SACLANT: NATO's Atlantic Partner," *Military Review* 36 (October 1956), pp. 42-44.

²⁰⁵ This is evident in Admiralty papers for the period, especially after 1957, at which point British influence on the planning process appears to weaken. See, Mats Berdal, *British naval policy and Norwegian security: Maritime power in transition, 1951-1960*, (Oslo, IFS: Forsvarsstudier 2/1992).

Norway in US Navy war plans

SACLANT's Strategic Concept and The Changing Role of Carrier Task Forces Under The "New Look"

When Allied Command Atlantic was activated in April 1952, US Navy planners envisaged two broad roles for attack carrier task forces in the North Atlantic. First, they would serve as mobile platforms for the conduct of offensive air operations against enemy threats at their source, attacking bases and facilities from which Soviet submarines and naval aviation derived operational support.²⁰⁶ The second major role envisaged for heavy carriers was "in support of and augmentation of allied land-forces participating in the land-air battle in Europe."²⁰⁷ Indeed, when General Eisenhower in 1951 presented his estimated force requirements for the defence of Western Europe, he informed the Standing Group that these were predicated on the assumption that the "primary role of aircraft carriers" would be to assist in the defence of his northern and southern flanks.²⁰⁸

By 1954, however, both strategic planning and operational exercises emphasised strike operations and the projection of

²⁰⁶ D/Strategic Plans, to D/Naval Intelligence, Serials 000966P30 of 8 November 1950; and, 0001000P30, 24 November 1950, about "Target Data", both in A16-3, Strategic Plans Division Records, NHC.

²⁰⁷ War Plans Division, D/Plans, 5 October 1951, Subject: Employment of Aircraft Carriers in the North Sea and North East Atlantic, 7C Carrier Papers, Box 84, Papers of Hoyt S. Vandenberg (CS/USAF), Manuscript Division, Library of Congress.

²⁰⁸ Excerpts of letters from General Eisenhower to Admiral Fraser (First Sea Lord) and Admiral Fetchler (CNO), 24 September 1951, and SACEUR's reply to Standing Group request for estimate of force requirements based on D-Day 1 July 1954, quoted in "Study of Attack Carrier Force Levels (Cold War)," 13 October 1953, A4, Box 280, Strategic Plans Division Records, NHC.

"nuclear offensive power ... into the heart of the enemy naval bases and airfields."²⁰⁹ This shift in emphasis was caused both by *strategic* considerations and by a perceived need from 1954 onwards to give priority to naval tasks in the face of a growing Soviet naval threat.²¹⁰

In 1951 General Eisenhower's requirements for 16 attack carriers - eight of which would be deployed on the Northern Flank thirty days after the outbreak of war - had been tailored to the conventional strategy favoured by the Alliance between 1950-1952.²¹¹ The post-Korean build-up notwithstanding, by late 1953 actual US attack carrier commitments to NATO were two ships on peacetime station in the Mediterranean, and wartime commitments in the Atlantic significantly below what SACEUR, now the President, had been asking for in 1951.²¹² Reporting on the status of US military programmes as of December 1954, the Navy stated it was only able to keep one or two attack carriers in the Atlantic fully ready for use in the initial phase of a general war.²¹³ Instead of two striking fleets

²⁰⁹ Vice Admiral John McNay Taylor, "The Striking Fleet Atlantic," *NATO's Fifteen Nations* (April 1962), p. 37.

²¹⁰ "Russia - Threat To US At Sea: Interview with Admiral Robert B. Carney, CNO," *US News & World Report*, 18 June 1954.

²¹¹ The ultimate expression of NATO's early conventional strategy were the February 1952 Lisbon force goals; nearly one hundred divisions backed up by naval and air power. In April 1953, the first downward revision of these force goals was approved. In December 1953, the NAC reduced previous force goals further, and in April 1954 the original Lisbon targets were formally abandoned. Watson, *History of the Joint Chiefs of Staff*, pp. 282, 287 and 299.

²¹² "Study of Attack Carrier Force Levels (Cold War)," 13 October 1953, A4, Box 280, Strategic Plans Division Records, NHC.

²¹³ An additional factor which for much of the 1950s reduced the availability of carriers in the Atlantic was the continued deployment of Atlantic Fleet ships to the western Pacific. In his departing letter to President Eisenhower on 12 August 1955, Chief of Naval Operations, Admiral Robert Carney, felt "obliged" to state that "with the peacetime realities of deployments in the Pacific, we are not prepared to meet the Atlantic commitments which we have made to

in the Atlantic, only one would be available after one month of war "at the earliest."²¹⁴ In March 1955 Admiral Jerauld Wright informed the Chief of Naval Operations that he did not possess sufficient carrier forces to ensure early destruction of targets in the Baltic, Barents and White Sea area "within an acceptable period after D-day."²¹⁵ A diversion of resources away from the nuclear strike role was rejected. The following month, in April 1955, Rear Admiral McCorckle, Director of Fleet Operations, in discussing capabilities for amphibious operations, reported that attack carriers were now "heavily committed" and could therefore not be used to support amphibious operations "in the early days of an emergency without unacceptable curtailment of the primary offensive tasks of these ships."²¹⁶ An additional factor which was increasingly seen to militate against carrier operations primarily in support of the land-battle, especially in Denmark and South Norway, was the perceived vulnerability of carriers operating in the confined waters close to the Baltic approaches. In March 1953, an air target study produced by US naval intelligence for use by SACLANT had assumed that carriers would operate from the "entrance to the Baltic Sea or from 5 miles off the

NATO; it is physically impossible to do so." Letter from Admiral Carney, CNO, to President, 12 August 1955, Admiral Carney, Box 10, Administration Series, Papers of Dwight D. Eisenhower as President of the US, DDEL.

²¹⁴ NSC 5509, DoD Report to NSC on Status of United States Military Programs as of 31 December 1954, Part 1, 31 March 1955, NSC 5509 (1), Box 8, NSC Series - Status of Project Subseries, WHO: Office of Special Assistant for National Security Affairs, DDEL.

²¹⁵ Letter from CINCLANT to CNO, 23 March 1955, Subject: US Atlantic Fleet Ability to Meet Post-D-Day Commitments to form Carrier Striking Forces, L(1), Box 322, Strategic Plans Division Records, NHC.

²¹⁶ Memorandum, From: D/Fleet Operations Division, To: D/Strategic Plans, 4 April 1955, Subject: Mobility of Fleet Marine Forces, A16-12(2), Box 320, Strategic Plans Division Records, NHC.

coast of Norway."²¹⁷ This assumption was rejected by Arleigh Burke, the head of the Strategic Plans Division and later CNO, on the grounds that it was "considered improbable" that "carriers would conduct flight operations at the entrance to the Baltic Sea, i.e. within the Skagerak and Kattegat."²¹⁸

The emphasis on nuclear power projection and the corresponding downgrading of the support role for carriers, meant that operational planning and exercise patterns came to focus predominantly on preparations for the tactical employment of nuclear weapons against Soviet targets in the northern region. The strategic rationale for the shift was the conviction within the US Navy that, as one internal report in 1955 put it, "attack at source" by carrier striking forces represented the "Navy's first line of defence against enemy submarines."²¹⁹ Norway's role became one of sustaining and supporting these operations. It is worth noting in this context that in December 1954, planning started for the *first* joint atomic command post exercise held by CINCNORTH. The exercise, known as SKY BLAESER, was held in late February 1955, and involved the practice of all "atomic support procedures."²²⁰

According to Sokolsky, US carriers earmarked for SACEUR in the Mediterranean had by 1954 "begun to shift their

²¹⁷ Memorandum, From: D/Strategic Plans, To: D/Naval Intelligence, 17 March 1953, Subject: Air Targets Study, DDT No.740; comments on, A-8, Box 283, Strategic Plans Division Records, NHC.

²¹⁸ *ibid.* and From: OP-55, To: OP-32, March 1953 Subject: Air Targets Study, DDT No.740, A-8, Box 283, Strategic Plans Division Records, NHC.

²¹⁹ "IILC. Evaluation of Capabilities of Antisubmarine Forces," in NSC 5509, Part 1, 31 March 1955, NSC 5509 (1), Box 8, NSC Series, Status of Project Subseries, WHO: Office of Special Assistant for National Security Affairs, DDEL.

²²⁰ NEC Historical Reports, 1 July 1954 - 30 June 1955, "Training Activities," SECCOS, HQ AFNORTH.

primary focus from battlefield support to nuclear strikes."²²¹ At about the same time, a corresponding shift occurred in the north. In early 1955 SACLANT, in coordination with SAC, was scheduled to attack submarines, surface and air forces in being and "the bases from which they derive their operational support and protection" in the Baltic, Norwegian Sea, Barents Sea and White Sea area.²²² In March 1955 there were an estimated 18 target complexes of interest in the Baltic, the Barents and the White Sea capable of supporting enemy submarine or other offensive forces. All these targets would, according to Admiral Jerauld Wright, have to be "destroyed by atomic attack in order to ensure that Soviet shore-based potential for support of naval forces may suffer maximum possible reduction."²²³

As the submarine threat from Soviet northern bases was seen to increase further after 1955, even greater emphasis was placed on "forward operations" in the northern seas. Outlining the concept of operations in SACLANT's EDP for 1957, Wright emphasised that initial priority would be given to "nuclear strikes against Soviet naval and air power in a position to contest his use of the Norwegian Sea."²²⁴ Once the air threat had been sufficiently reduced, SACLANT's main nuclear targets would be "submarine bases, units at sea, naval

²²¹ Sokolsky, *Seapower in the Nuclear Age*, p. 59.

²²² Memorandum, From: D/Strategic Plans, To: D/General Planning Group, 18 February 1955, Subject: US Navy Fixed Responsibilities in NATO Air Atomic Mission, A16-10, Box 319, Strategic Plans Division Records, NHC.

²²³ Letter from CINCLANT to CNO, 23 March 1955, Subject: US Atlantic Fleet Ability to Meet Post-D-Day Commitments to form Carrier Striking Forces, L(1), Box 322, Strategic Plans Division Records, NHC.

²²⁴ JP(56)165(Final), SACLANT's Emergency Defence Plan for 1957, 1 November 1956, DEFE 6/37, PRO.

bases, and supporting communication complexes."²²⁵ The British Joint Planning Staff, commenting on SACLANT's plans, noted that his EDP now placed even "greater emphasis on offensive operations by the Striking Fleet."²²⁶ In December 1956, this emphasis was enshrined in NATO's new "Overall Strategic Concept for the Defence of the NATO Area (MC 14/2)." To further NATO's strategic objectives in the Atlantic ocean area, it was

*essential to have a timely projection of Allied sea-borne nuclear offensive power against enemy naval and other agreed targets; and also to engage the enemy as soon and as far forward as possible so as to reduce to the minimum the number of his units which can penetrate to the broader reaches of the Atlantic and threaten the vital Allied sea lines of communications."*²²⁷

All of these developments were to have important consequences for Norway. In the first place, although Eisenhower's original flank concept was not formally abandoned, fewer resources were available for direct support of the land-air battle in Norway.²²⁸ While it is true that the US Navy after 1957 displayed growing concern with the dangers of a direct threat to North Norway, this was not sufficient to detract from the primary emphasis on strike operations. Yet, as will be seen, the failure to meet what turned out to be unrealistic requirements after the post-Korean build-up and the subsequent

²²⁵ *ibid.*

²²⁶ *ibid.*

²²⁷ Sections of MC 14/2 are cited in JP(57)124(Final), 6 November 1957, Allied Command Atlantic Minimum Forces Study, 1958-1962, DEFE 6/43, PRO.

²²⁸ The 1953 report by the Strategic Plans Division stressed that "SACEUR has never deviated from his repeated statements that carrier task forces are vital to the security of his flanks." "Study of Attack Carrier Force Levels (Cold War)," 13 October 1953, A4, Box 280, Strategic Plans Division Records, NHC.

emphasis on nuclear strike operations did not lead to any corresponding diminution of interest within the US Navy for Norway and the contiguous seas. On the contrary, the construction of airfields and other shore-based facilities supporting the Strike Fleet, especially in North Norway, gave Norway a vital role in US maritime strategy.

Planned Wartime Operations from Norwegian Air Bases

As the US Navy increasingly turned to the North Atlantic, bases in North Norway appeared particularly suitable as staging areas for operations against targets on the Kola Peninsula and long-range submarines transiting the northern approaches. As early as in 1951 it had been recognised that existing plans for "submarine mining ... of selected Barents-White Sea targets" were inadequate. In a memorandum in December 1951, Rear Admiral Frank Akers, responsible for the US Navy's undersea warfare effort in the early 1950s, pointed out that no clear requirement had been "established" for "patrol bomber" bases within "effective range" of targets in the Barents-White Sea area. Admiral Akers noted further that:

*It is considered that the Barents-White Sea area may well be the most important from which Soviet submarines will operate against the Allies in the Atlantic. It is emphasized that mining of selected targets in the area is a requisite of maximum antisubmarine effort.*²²⁹

Akers concluded by recommending that "further study be made of the requirements for conducting mining operations in

²²⁹ Memorandum, From: Assistant CNO, To: D/Strategic Plans 21 December 1951, Subject: Draft of Proposed Over-all Aerial Mining Plan; forwarding of, A4-3(1), Box 272, Strategic Plans Division Records, NHC.

the Barents-White Sea area, particularly with a view to accomplishment within naval capabilities.²³⁰

Although the US Navy in 1951 did recommend that wartime base rights be obtained in North Norway to assist Norwegian forces in "ASW, search barrier patrols, mining and electronic search," no request was made for formal negotiations with Norwegian authorities.²³¹ The need to modify and expand air bases for use by the US Navy was reiterated in 1952 and 1953, though no *effective* action was taken until 1954.²³² By late 1954, CNO had officially incorporated three "maritime air facilities" in Norway - Andøya, Bodø and Ørlandet - as key wartime operating bases for the US Navy. In September 1955, Admiral Jerauld Wright, Commander of the Atlantic Fleet, sent the newly appointed Chief of Naval Operations, Admiral Arleigh Burke, a detailed list of his requirements for all three airfields. By the end of the year, the general function of each airfield had been clarified and was spelled out in CNO's amended list of naval base requirements overseas.²³³

The decision to concentrate preparations for immediate wartime deployment to bases in North Norway was directly

²³⁰ *ibid.*

²³¹ Memorandum, From: OP-05, To: OP-04, 16 April 1951, Subject: Joint Military Rights Requirements in Norway, A14-1, Box 264, Strategic Plans Division Records, NHC. This memorandum was specifically referring to the airfield at Bodø which was then under construction. It was estimated that 175 officers and 1,050 enlisted personnel would have to be accommodated at the base if agreement for basing was reached.

²³² Memorandum, From: OP-301 To: OP-30B, 29 August 1952, Subject: Tactical Air Force Base Rights in Norway, A-14, Box 271; and Memorandum: From: OP-504E5 To: OP-301C, ND 1953, Subject: SACLANT Requirements Presentation, A14, Box 283, Strategic Plans Division Records, NHC. A maritime airfield was incorporated in the 1953 infrastructure programme (fourth slice), though detailed Navy requirements were only specified later (see below).

²³³ CNO's Recommended Changes to JCS 570/377 USBRO, December 1955, Box 323, Strategic Plans Division Records, NHC.

related to the growth of the Soviet northern submarine fleet discussed in the previous chapter. Apart from serving as staging bases for peacetime reconnaissance and ASW training missions, Bodo and Andøya, in particular, were assigned an important wartime role in the offensive directed against the Soviet submarine threat from northern bases.²³⁴ The chief purpose of these bases was to act as a final staging area for offensive aerial mining operations in northern waters, seen as a vital ASW task by the US Navy. According to Rear Admiral Akers, such mining would "yield more profitable immediate results than any other attacks undertaken to counter submarine capabilities."²³⁵ By 1955, fairly detailed plans had been worked out and SACLANT's mining Plan for 1955 gave Norwegian bases an important wartime role. According to the plan, aircraft deployed to Norway would

*conduct an early mining campaign in order to inflict maximum casualties on enemy ships, particularly U-boats, and to limit the freedom of movement of enemy shipping.*²³⁶

Assuming that northern parts of Norway, the Baltic exits and the channel ports would be held by NATO forces during the first 60 days of war, and that Sweden would remain neutral, SACLANT forces would at the outset of hostilities initiate an extensive aerial mining campaign. The object of this cam-

²³⁴ The special status of these two bases is also suggested by the existence of a document, "JCS 570/484, Status of Andøya and Bodø as Bases in Current War Plans," in the JCS "Hot Box" in 1958. The document is still classified, but the associated "flimsies" speak of the "extreme delicacy" of the paper (a Freedom of Information Act request for JCS 570/484 has been submitted).

²³⁵ Memorandum, From: Assistant CNO, To: D/Strategic Plans, 21 December 1951, Subject: Draft of Proposed Over-all Aerial Mining Plan, A4-3(1), Box 272, Strategic Plans Division Records, NHC.

²³⁶ Brief of SACLANT Mining Plan 1-55, A16-12, Box 320, Strategic Plans Division Records, NHC.

paign, which would be closely coordinated with Strike Fleet and SAC operations, was to:

(1) Establish "sustained attrition mine fields" off Archangelsk and Belomorsk in the White Sea Area by P2V sorties from Andøya.

(2) Establish "limited attrition mine fields" off Polyarny, Vayenga, Tyuva Guba in the Kola Inlet and off Pechenga and Yokanga by P2V aircraft from Andøya and "other Norwegian bases."

(3) Establish "transitory attrition fields" in the White Sea Entrances off the Murmansk Coast and the Kola Inlet and Pechenga approaches by US and UK submarines basing on Clyde.²⁵⁷

Effective utilisation of Norwegian bases by the US Navy, however, was seen to require modifications of existing airfields.

In terms of immediate post-D-Day deployment, Andøya was the most important airfield. According to CNO plans, the maritime air facility at Andøya, which had been included in SACLANT's 1953 infrastructure programme, was to receive one squadron for offensive mining operations "immediately available post D-Day" (D+1), to be *augmented rapidly* thereafter.²⁵⁸ The aircraft in question, Neptune (P2V) maritime patrol bombers, would be deployed from Iceland, and their missions as listed by CNO included ASW-mining, air early

²⁵⁷ *ibid.*

²⁵⁸ CNO to CINCLANT, 6 December 1954, Subject: Base Requirements for Support of US Forces Earmarked for Assignment to SACLANT, JCS 1954-56, ccs 360 (12-9-42) Sec. 80, Rg.218 NARA, and Memorandum, From: Director, Strategic Plans, To: Director, Logistics Plans Division, 10 October 1955, Subject: Base Rights for Support of US Forces Earmarked for Deployment to Norway, EF, Box 325, Strategic Plans Division Record, NHC.

warning, and photo-reconnaissance operations.²⁵⁹ The size of the prospective wartime deployment to Andøya can be seen in the Navy's requirements for construction of installations and infrastructure facilities to support wartime operations in the area. According to CINCLANT, Andøya required prior construction of "austere national support facilities" including base administration and housing facilities for 1,100 men (825 for support and 275 for the flight crews). When, in October, the Strategic Plans Division was asked to comment on CINCLANT's requirements for wartime detachment to Norway, emphasis was placed on the need for a pre-D-Day mine storage and assembly facility "to support naval plans."²⁴⁰ In his mining plan for 1955, SACLANT noted that difficulties of shipping mines after D-Day, required pre-D-Day deployment of one month's supply of mines to Andøya and Clyde. Those at Andøya were to be ready mines, and facilities had to include storage, test assembly and handling facilities.²⁴¹

The deployment of patrol bombers and supporting units to Bodø, which only became fully operational in 1955, was planned for D+6 months, hence there was no requirement for pre-D-day construction beyond existing infrastructure programmes.²⁴² Post-D-day construction required for support of wartime deployments, however, included base facilities for 1,200 men (825 support personnel and 375 for flight crews). In CNO's

²⁵⁹ "Patrol bomber" was the US designation for what the British and the Norwegians simply referred to as "maritime patrol aircraft."

²⁴⁰ Memorandum, D/Strategic Plans to D/Logistic Plans Division, 10 October 1955, EF, Box 325, Strategic Plans Division Records, NHC. This requirement was added to CNO's list of overseas base requirements in December 1955.

²⁴¹ "Brief of SACLANT Mining Plan 1-55," A16-12, Box 320, Strategic Plans Division Records, NHC.

²⁴² From: CINCLANT, To: CNO, 16 September 1955, Subject: Base Rights for Support of US Forces Earmarked For deployment to Norway, (enclosure 3: Requirements for Bodø, Norway), EF, Box 325, Strategic Plans Division Records, NHC.

final list of overseas base requirements for 1955, Ørlandet in the Trøndelag area, which had originally been included as a NATO airfield in SACEUR's infrastructure programme for 1952 (third slice), was to serve as an advanced maintenance base for aircraft deployed further north at Andøya and Bodø.²⁴³ The airfield at Ørlandet was to receive aviation repair personnel "on D-Day for overhaul and major repair of US aircraft based at Andøya."²⁴⁴ Full support facilities were needed for 400 men since these were to be deployed immediately after D-Day.

In order to prepare air crews for operations in and around Norway, the expansion of facilities between 1955 and 1960 was accompanied by a significant increase in operational activity. In early August 1955, a US memorandum presented to the Norwegian Ministry of Foreign Affairs requested "authorization of indoctrination flights of two US Navy P2V aircraft based at Keflavik to Bodø, Andøya and Bardufoss about every three weeks."²⁴⁵ The memorandum noted further that in view of the planned wartime missions of these aircraft, it was desirable that US Navy personnel should have some "familiarity with NATO air-fields in Norway and the flight conditions adjacent thereto."²⁴⁶ After discussion between Foreign Minister Halvard Lange and the US ambassador to Norway, Lester Corrin Strong, the request was formally granted in an exchange of notes on 17 August.²⁴⁷ The agree-

²⁴³ CNO's Recommended Changes to JSC 570/377 USBRO, December 1955, Box 322, Strategic Plans Division Records, NHC.

²⁴⁴ From: CINCLANT, To: CNO, 16 September 1955, Subject: Base Rights for Support of US Forces Earmarked For deployment to Norway, (enclosure 2: Requirements for Ørlandet, Norway), EF, Box 325, Strategic Plans Division Records, NHC.

²⁴⁵ Flyvåpenets overkommando, "Amerikanske flybesøk til Bodø, Andøya og Bardufoss," 13 sept. 1955, (ref. H 1111/55/005.I.3. JSB/EJ.), FD.

²⁴⁶ *ibid.*

²⁴⁷ *ibid.*

ment formed the basis for a steady expansion of US maritime air operations in and around Norway in the latter half of the decade. Less than two months after this initial agreement, Admiral Wright informed CNO that "additional agreements" had to be negotiated.²⁴⁸ In his detailed list of requirements for Norway in September 1955, Wright stated that agreements would have to be negotiated for "up to thirty training and familiarisation flights per month ... for all types of naval aircraft" in connection with negotiations for all three airfields (Bodø, Andøya and Ørlandet).²⁴⁹ An indication of the scale of US activity in and out of Norway by September 1956, is found in a Foreign Ministry memorandum. It refers to US requests for clearance of American aircraft being made "several times per week if not daily" through the Norwegian Foreign Ministry.²⁵⁰ As will be seen later, US activity was further stepped up in late 1957 and early 1958.

In the mid-1950s *Neptunes* were specially equipped to carry atomic depth charges (Mk 90 *Betty*) for use in anti-submarine transit operations.²⁵¹ At Hvalfjordur in Iceland, where the British had built a naval base during the war, the US Navy constructed an atomic ammunition facility (known as "AUW shops") for servicing atomic depth bombs "to support the

²⁴⁸ From: CINCLANT, To: CNO, 16 September 1955, Subject: Base Rights for Support of US Forces Earmarked For deployment to Norway, (enclosure 1: Requirements for Andøya, Norway), EF, Box 325, Strategic Plans Division Records, NHC.

²⁴⁹ *ibid.*

²⁵⁰ Notat, 11 September 1956 (regler for fremmede skip og flys adgang til Norge i fredstid), 38.15/7, Bind. III, UD.

²⁵¹ That is, atomic depth bombs would be employed against Soviet submarines in transit from northern bases to their patrolling areas in the North Atlantic. Memorandum, From: D/Undersea Warfare Division, To: Aviation Plans Division, Subj: AUW Shops for Servicing Atomic Depth Bomb, Mk-90(Betty), A16-10, Box 319, Strategic Plans Division, NHC. See also, "Soviet Sub Menace Cut by New Weapon," *The Register*, 2 November 1957.

special weapons operations of the Second Fleet."²⁵² As noted above, patrol bombers stationed in Iceland were earmarked for operations in Norway in the event of war, and exercised there with increasing frequency in the latter half of the decade. Although there is no evidence to indicate that "special weapons assembly facilities" were constructed in Norway, the central role envisaged for nuclear weapons in naval operations in the 1950s does raise important questions about the *tension* between declaratory and operational policy. At the first NATO Heads of Government meeting in December 1957, Prime Minister Gerhardsen declared that nuclear weapons of any kind would not be stationed on Norwegian territory. The Neptunes almost certainly carried their nuclear payload on missions in the North Atlantic and into Norwegian airfields. The difficulties of pursuing a non-nuclear policy within a nuclear alliance at the *operational* as opposed to the *declaratory* level of policy are also brought out by a closer look at Norway's relationship to Strike Fleet operations in the North Atlantic.

Norway and Strike Fleet operations

From 1954 onwards, Norwegian territory also became increasingly important in support of Strike Fleet operations. In the first place, arrangements were made for North Norwegian air bases to be used as staging points for carrier-based attack aircraft operating with the Striking Fleet. Although this function was incidental to the primary role which the aforementioned airfields played in aerial mining operations, the Navy in 1953-54 did formulate plans for carrier-based aircraft to use North Norwegian air bases for "atomic strikes on the

²⁵² Memorandum, From: D/Atomic Energy Division, To: D/Undersea Warfare Division, 25 November 1955, Subject: Permanent Facilities for Special Weapons Assembly Operations at Final Staging Bases, A16-10, Box 319, Strategic Plans Division, NHC. Sokolsky, *Seapower in the Nuclear Age*, p. 57.

USSR."²⁵³ The requirement for "periodic support of carrier-based aircraft" from Norwegian airfields was first stated in 1953 and provoked reaction from the Air Force.²⁵⁴ In December 1954, Admiral Carney approved SACLANT's recommendation that airfield facilities on Andøya be used by "aircraft of the Carrier Striking Forces" provided this did not interfere with Maritime/Patrol aircraft operations.²⁵⁵ The use of airfields for carrier-based aircraft was, however, only one of the ways in which Strike Fleet operations benefitted from access to "facilities" on Norwegian territory. More important was the assistance provided in areas of communications and navigation.

Communications in the Arctic represented a major impediment to large-scale fleet operations in the 1950s, and the United States devoted much attention and resources to remedy existing deficiencies.²⁵⁶ The adverse impact of abnormal ionospheric conditions (auroral disturbances) and the effect of the ship's roll and pitch in heavy Arctic weather on the directivity pattern of antennas were not new problems.²⁵⁷ They had, however, acquired new importance "because of the necessity to maintain large scale continuous operations in ...

²⁵³ Memorandum for General Vandenberg (CS/USAF), 18 February 1953, Subject: Navy Proposal for Shore Basing of Attack Aircraft in Northern Europe, 7c Carrier Papers, Box 84, The Papers of Hoyt S. Vandenberg, Manuscript Division, Library of Congress.

²⁵⁴ *ibid.*

²⁵⁵ From CNO to CINCLANT, Subject: Base Requirements for Support of US Forces Earmarked for Assignment to SACLANT, 6 December 1954, JCS 1954-56, ccs 360 (12-9-42) Sec.80, Rg.218,-NARA.

²⁵⁶ In December 1953, for example, the US Naval attache in Oslo was requested to forward information to OPNAV about operating conditions in the Arctic. See, Memorandum, For: OP-32 To: OP-30, 9 December 1953, Subject: Weather, Oceanography and Ship Operating Conditions in Arctic Regions, A16-1, Box 284, Strategic Plans Division Records, NHC.

²⁵⁷ Joseph A. Krcek (Office of Naval Research), "Communications in the Arctic," *Signal* 13 (September 1958), p. 41.

Arctic areas with the greatest emphasis on continuity and reliability."²⁵⁸ It was deemed particularly important to establish reliable communications between shore stations in Norway and naval forces, specifically the Strike Fleet, in the North Atlantic.

The need to improve communications between shore stations and the Strike Fleet was twofold. In the first place, as the shore-based facilities became tied to the integrated air defence system set up between 1955-57 throughout Northern Europe, the Strike Fleet could be provided with vital air defence early warning information. The requirement for such information was seen to increase significantly in 1956-57 when BADGER aircraft entered the Northern Fleet Air Arm. At the sixth annual SHAPE-SACLANT planning coordination conference in late 1956 - shortly after BADGERS were reported to be operational in the Northern Fleet area - representatives for SACLANT's Strike Fleet established requirements for exchange of information with shore installations in Norway.²⁵⁹ To this *defensive* requirement, however, was soon added an additional *offensive* requirement. In November 1958 representatives for the Commander of Allied Forces in the Eastern Atlantic informed NEC staff that they were planning to utilise control and reporting systems within the NEC area for routing tactical bombing aircraft.²⁶⁰ The value of shore installations in Norway, both for *defensive* and *offensive* purposes, increased steadily throughout the decade.

²⁵⁸ *ibid.*

²⁵⁹ Airmorth, Historical Report, 1 July - 31 December 1957, NEC Historical Reports, SECCOS, HQ AFNORTH.

²⁶⁰ NEC Historical Reports, 1 January-1958 - 31 December 1958, SECCOS, HQ AFNORTH. Use could here be made of the TACAN system, that is, the chain of tactical air beacons constructed in Norway in the mid- to late fifties under NATO's infrastructure programme. Moreover, the LORAN stations constructed in Norway could also be used by aircraft for this purpose.

In August 1956, exercise GULF STREAM was held in the far north in order to test communications with the Strike Fleet. The exercise only served to demonstrate the "very unsatisfactory" communications in the area, and confirmed that the northern waters were "in many respects the very worst area for reliable, long range communications."²⁶¹ As a direct result of this exercise, rhombic aerials for communications with the Strike Fleet were installed at two places along the North Norwegian coast; Bodø and Helgelandsmoen.²⁶² These stations were tested again the following year in a series of major exercises in the North Atlantic - STRIKE BACK, COUNTER PUNCH and NORTH BACK. But again, disturbances "almost completely severed communications between shore and fleet for long periods."²⁶³

The navigation system upon which the US Navy relied, known as LORAN (Long Range Aid to Navigation), had first been developed during the Second World War at the MIT Radiation Laboratory. By recording time differences between the arrival of radio signals from various land-based transmitters, positional fixes were made. A report by the Joint Communications-Electronics Committee to the JCS in October 1955 emphasised that LORAN was the only precise all-weather navigational aid which had extensive coverage and which could be used by aircraft and vessels, and was therefore "an important defen-

²⁶¹ NEC Historical Reports, 1 July 1956 - 31 December 1957, SECCOS, HQ AFNORTH; Krcek, "Communications in the Arctic," p. 41.

²⁶² NEC Historical Reports, 1 July 1956 - 31 December 1957, SECCOS, HQ AFNORTH.

²⁶³ History of NEC, 1 July 1956 - 31 December 1957 (signals division), Annex 8 to AFNORTH Historical Report, SECCOS, HQ AFNORTH. See also, "Strike Back Paid Big Dividends, Reports Adm. Wright; Communications Is Problem," *Army-Navy-Air Force Journal*, 12 October 1957.

sive and offensive weapon."²⁶⁴ The JCS also established that LORAN coverage "would be immediately required in the North Atlantic, North Sea, Norwegian Sea and the Mediterranean areas upon the outbreak of war in Europe."²⁶⁵

The system was developed and expanded throughout the 1950s, and in July 1955, SACLANT in a signal requested that "LORAN site surveys be made as soon as possible" in Norway.²⁶⁶ From 29 August to 12 September preliminary site surveys were made at Austkapp on Jan Mayen, Bø i Vesteralen and Bjugn in South Trøndelag by Norwegian authorities assisted by technical experts from the US Coast Guard. In December, the CNO in his recommended changes to the Navy's overseas base requirements requested 30 acres of land on each location for construction of LORAN. The "planned occupancy date" was 1958.²⁶⁷ All three stations were approved under the fifth slice of NATO's infrastructure programme. It should be noted that the date of CNO's request for the stations in Norway preceded the accelerated phase of the POLARIS programme and certainly preceded the decision to deploy the first boats in the Norwegian Sea.²⁶⁸ The 1955 requests were for Loran-A stations designed to support Strike Fleet surface and air operations in the Norwegian Sea and the

²⁶⁴ Report to JCS on Revised Loran Installation Plan, 19 October 1955, JCS 1954-56, ccs 676.3(8-25-42) sec.12, Box 163, Rg.218, NARA.

²⁶⁵ *ibid.*

²⁶⁶ "Signals Chronological Order of Events," NEC Historical Reports, 1 July 1955 - 30 June 196, SECCOS, HQ AFNORTH.

²⁶⁷ The Navy requirements were for a "3-station chain." "CNO's Recommended Changes to JCS 570/377 USBRO, December 1955," Box 323, Strategic Plans Division, NHC.

²⁶⁸ In early plans, the Polaris was scheduled for initial deployment *either* in the Norwegian Sea or Mediterranean. See Memo for SecDef, 5 May 1959, Subj: Statement of Navy Views on the Concept of Employment and Command Structure for the POLARIS Weapon System, ccs 4720, Box 62, JCS 1959, Rg.218, NARA.

Northeast Atlantic. As will be seen, in connection with the establishment of a navigational support system for the POLARIS submarines, US authorities in March 1958 formally approached the Norwegian Foreign Ministry with a request for the construction at Bø in Vesteralen of a more advanced long-range navigation system, the Loran-C and related facilities.

Conclusion

This chapter has looked, first, at the broader background to the growth of US naval interests in the High North, and, second, at the specific ways in which Norway entered into the strategic calculations of the US Navy. By 1956, CINCLANT and OPNAV had specified their requirements for airfield construction in North Norway. Maritime air squadrons based in Iceland had been assigned wartime missions in Norway, whence they would carry out offensive mining operations in the Kola Inlet and the entrances to the White Sea. Site surveys had been completed for Loran-A stations in Norway in order to support Strike Fleet and tactical air operations. Similarly, communication facilities were also under continuous construction, testing and improvement. The basis for a new and expanded role for the US Navy in the Northeast Atlantic had been laid.

In spite of this, the growth of US activity between 1954 and 1957 was more pronounced in the areas of intelligence and reconnaissance than in forward operational deployment. A basic reason for this was that until late 1957 the US still relied strongly on the presence and capabilities of the Royal Navy in the Eastern Atlantic. In late 1957 and early 1958, however, changes in British naval policy, the impact of technological developments and growing concern about Soviet guided-missile submarines led the US Navy to step up its activities in the far north markedly.

CHAPTER IV
AMERICAN FORWARD MARITIME STRATEGY
IN THE NORTH ATLANTIC,
1957-60

Anti-submarine warfare and limited war contingencies

Meeting the Soviet Submarine Challenge: Offensive Operations and Organisational Change

Although Admiral Burke had reinstated anti-submarine warfare as the Navy's first priority in 1955, the events of 1957 infused the naval establishment with a new sense of urgency.²⁶⁹ In the Atlantic the weaknesses revealed in SEA WATCH and the belief that Soviet nuclear-powered and missile-carrying submarines would soon become operational dramatically increased the US Navy's perceived need for a sustained effort to improve ASW capabilities.²⁷⁰ Testifying before a Congressional subcommittee in February 1959, Admiral Jerauld Wright reported that "almost all components of the Atlantic Fleet" were now engaged towards the destruction of Soviet submarine power.²⁷¹

²⁶⁹ David A. Rosenberg, "Arleigh Burke" in *The Chiefs of Naval Operations*, ed. R.W. Love Jr., (Annapolis, MD: Naval Institute Press, 1980), p. 277; *Semiannual Report of the Secretary of the Navy, 1 January 1957 to June 1957* (Washington, D.C.: UGPO, 1958), p. 176. For a detailed account of the impact of events in 1957 on US naval policy, especially the scaling down of British naval commitments after Sandys's Defence Review in April 1957, see Mats Berdal, *British Naval Policy and Norwegian Security: Maritime Power in Transition, 1951-1960* (Oslo, IFS: Forsvarsstudier 2/1992).

²⁷⁰ See US Naval Institute Oral History Programme, *Volume II of the Reminiscences of Admiral John S. Thach, USN* (US Naval Institute, Annapolis, Maryland, 1977), p. 688, and *The Reminiscences of Rear Admiral Charles Elliot Loughlin, USN* (US Naval Institute, Annapolis, Maryland 1982), p. 255.

²⁷¹ Presentation to Congress by Admiral Jerauld Wright, Commander-in-Chief, US Atlantic Fleet, 11 February 1959, CJCS 092.2 (N. Twining Records), JCS 1959, Box 12, Rg.218, NARA.

In a paper sent by Admiral Burke to Eisenhower's administrative assistant, Bryce Harlow, in mid-November 1957, the Chief of Naval Operations outlined the "submarine problem" and the basic tenets of the Navy's anti-submarine philosophy.²⁷² From this and similar documents, the US ASW programme can be seen as centring on three major tasks, each corresponding to layers of defence against the submarine threat.²⁷³ *First*, Admiral Burke expected that most submarines would be hidden in dispersed coves and fjords. The "first line of defence", therefore, would be direct nuclear attack against submarine bases. Carrier striking forces in, coordination with the SAC, would be required to "search out and destroy these small hidden bases, as early as possible in war, to reduce the menace at its source."²⁷⁴ *Second*, if submarines survived the initial attack, they would have to sortie through mine fields laid at the exits from home waters. In these offensive mining operations, conducted by aircraft and submarines, Norway's role was considered extremely important.²⁷⁵ *Third*, if submarines did succeed in dispersing into larger ocean areas, they would be sought out by Hunter-Killer task forces consisting of lighter ASW-configured carriers (CVS), attack submarines and surface ships. These would be aided by sea-based aircraft and

²⁷² Arleigh Burke to Bryce Harlow (enclosing "carrier paper"), 15 November 1957, Missiles - Misc Papers [1957-1958] (2), Box 2, Harlow, Bryce, Records 1953-61, DDEL.

²⁷³ See also "US Navy ASW Programme" (OP-312), 17 January 1958, Navy Line Folder No.3, Box 17, Papers of E.P. Aurand (Naval Aide to President, 1957-61), DDEL.

²⁷⁴ Arleigh Burke to Bryce Harlow (enclosing "carrier paper"), 15 November 1957, Missiles - Misc Papers [1957-1958] (2), Box 2, Harlow, Bryce, Records 1953-61, DDEL.

²⁷⁵ The US referred to this phase of the ASW strategy alternately as "forward defensive operations" and the "barrier offensive". The Royal Navy preferred the older term "submarine transit offensive." Apart from the offensive mining, it involved, as the terms imply, *forward* operations against submarines in transit to patrol areas. Vice-Admiral W.Woods to Lord Mountbatten, 11 April 1958, ADM 205/173.

shore-based patrol bombers in Scotland, Iceland and Norway.²⁷⁶ Although it is true that these principles of ASW had been emphasised earlier, the organisational effort put into strengthening capabilities in each of these areas increased substantially in 1957, with important consequences for both Britain and Norway. In the first place, nuclear strike operations against targets on the Kola peninsula and at the White Sea entrances were assigned higher priority. The extreme difficulties which the US Navy encountered in its own exercises when trying to detect, classify, track and locate nuclear-powered submarines for kill, led the Navy to place an even greater emphasis on attack at source.²⁷⁷ Commenting on Admiral Wright's concept of operations in his EDP for 1958, the British Joint Planning Staff noted that

SACLANT considers that the Striking Fleet should launch its nuclear attacks from the Norwegian Sea. Priority will be given, in the early stages, to strike against Soviet naval and air power which might contest the use of the Norwegian sea ... As the Soviet air threat is reduced to manageable proportions, their main nuclear targets will be:-

- (a) Submarine bases and supporting installations.
- (b) Submarine and surface forces at sea.
- (c) Naval bases, shipyards and supply installations.
- (d) Lines of communications supporting the above.²⁷⁸

²⁷⁶ For the distinctive US preference for Hunter-Killer as opposed to convoy operations favoured by the Admiralty, see the unofficial but highly representative article by A.L. Danis USN, "Offensive ASW: Fundamental to Defense," *USNIP* 83 (June 1957), pp. 583-589.

²⁷⁷ On the difficulties with existing ASW technology see George P.Steele, "Killing Nuclear Submarines," *USNIP* 86 (November 1960), pp. 45-51.

²⁷⁸ JP(57)146(Final) 22 November 1958, SACLANT's Emergency Defence Plan for 1958, DEFE 6/44, PRO.

The perceived importance of destroying targets in the initial period of conflict is illustrated by SACLANT's insistence that "if the deployment of the Striking Fleet is significantly delayed, external assistance will be sought to deal with the above primary targets by nuclear attacks."²⁷⁹

Joint exercises strongly reflected this heavy emphasis on nuclear operations. In the autumn of 1960, during a series of large-scale exercises collectively known as FALLEX 60, the Strike Fleet moved into the Norwegian Sea through the Iceland-Faroes Gap and simulated nuclear strikes against the continent in face of undersea and air opposition.²⁸⁰ Similarly exercise RIPTIDE II, in the summer of 1961, was specifically "designed to perfect nuclear strike operations and to test strike coordination in a hostile, air, surface and submarine environment."²⁸¹

Yet the clearest indication of the evolving emphasis on strike operations in the north can be seen in the growth of targets identified for nuclear attack by US forces in the first phase of war. In January 1951 there were five targets in the "Barents Sea area" recommended by the ONI for "immediate" attack, whose destruction would seriously weaken the Soviet submarine offensive.²⁸² Some four and a half years later in July 1955, a list of targets drawn up for the REGULUS nuclear

²⁷⁹ *ibid.*

²⁸⁰ James C. Elliot, "Sword Thrust" *Navy Magazine* 3 (November 1960), pp. 16-23; Press Release, Fall Exercises 60, "Digest of press conference with Admiral R.L. Dennison, USN, SACLANT, 28 September 1960, Supreme Allied Commander Atlantic, and *Brassey's Annual 1961* (London: William Clowes & Son, Ltd., 1961), pp. 326-327.

²⁸¹ Vice Admiral John McNay Taylor, "The Striking Fleet Atlantic," *NATO's Fifteen Nations* (April 1962).

²⁸² ONI, Typed Brief, "USSR Submarine Facilities Attack on which would make a contribution towards reducing Soviet capabilities to conduct submarine warfare," 24 January 1951, File 3, Drawer 3, TS no. 7869, ONI TS Records, NHC.

surface-to-surface missile contained 19 targets, all part of the "Murmansk complex."²⁸³ Targets included airfields and storage facilities as well as naval bases. Finally, in April 1959 the ONI presented a detailed study, based on JCS guidance for "reducing the Northern Fleet threat," on the vulnerability of the Soviet Northern Fleet to air attack.²⁸⁴ This study provides a unique insight into the operational plans of US naval forces and indicates clearly just how important the northern area had become by the end of the decade. The ONI quoted 54 "fixed installations that control or support Northern Fleet naval forces ... [as] the most likely targets."²⁸⁵ This figure included four naval headquarters, 21 naval operating bases, 11 major ports and shipyards, six naval supply depots and 12 "major" fuel storages. This dramatic increase corresponded to changes made in SACEUR's and CINCNORTH's Atomic Strike Plans (ASP), which in 1959 were also revised to take account of the "large number of additional targets" in the NEC area.²⁸⁶

Another aspect of the programme to strengthen US capabilities was a series of organisational changes designed to improve centralised direction and coordination of the overall ASW effort. Most significant in this respect was the establishment in July 1957 of an entirely new *functional* command under Admiral Wright, known as the Anti-Submarine Defence Force,

²⁸³ Memorandum for CNO, 13 July 1955, Subject: Submarine Control of REGULUS (Enclosing Regulus Target List, Priority "B" [Atlantic]), A-5, Box 315, Strategic Plans Division Records, NHC.

²⁸⁴ "Vulnerability of Northern Fleet to Air Attack," *The ONI Review*, vol. 14, no. 4, 1959, NHC.

²⁸⁵ *ibid.*

²⁸⁶ NEC Historical Report, 1 Jan. 1959 - 31 Dec. 1959, SECCOS, HQ AFNORTH. Also in 1957, the US Navy established an "Atomic Weapons Information Course" for allied officers serving under SACLANT. *Semiannual Report of the Secretary of the Navy, 1 January 1957 to June 1957* (Washington, DC: USGPO, 1958).

Atlantic.²⁸⁷ The first commander of the force, Admiral Frank Watkins, was given centralised authority for all anti-submarine efforts in the Atlantic, with special responsibility for coordinating the operations of three anti-submarine defence groups established in the course of 1957 and 1958.²⁸⁸ The first of these, designated Task Force ALPHA under Admiral John S. Thach, was established in 1957 with the specific objective of developing hunter-killer group tactics, doctrines and procedures. In the autumn of 1958, Admiral Wright established two new ASW defence groups. One of these, Group BRAVO, specialised in ASW protection of fast carrier forces (i.e. the Strike Fleet) operating in the Northeast Atlantic. The second task force, designated Group CHARLIE, was set up in order to develop convoy tactics and protect amphibious force convoys.²⁸⁹ These major changes were accompanied by an increased level of operational activity in the Eastern Atlantic, which was immediately felt by the British, the Norwegians and the Soviet Union.

Britain and US Forward Strategy

In late 1957 and early 1958 the US Navy began to press for greater command responsibilities in the Eastern Atlantic, commensurate with the increase in operational activity of US naval forces in the area. In a note to the COS in April 1958 Lord Mountbatten said there was "increasing evidence that the Americans desire a Command on this side of the Atlantic and

²⁸⁷ "New Defence Force Established," *The Register* 13 July 1957, and Admiral W.Cooper, "Meeting the Soviet Submarine Challenge in the Atlantic," in *Navy Magazine* 2 (April 1959).

²⁸⁸ "Admiral Wright Adds Two Anti-Sub Defence Groups to Atlantic Fleet," *Army-Navy-Air Force Journal*, 18 October 1958.

²⁸⁹ Vice Admiral Edmund B. Taylor, "A new Sense of Urgency," *Navy Magazine* 4 (February 1961). *Semiannual Report of the Secretary of the Navy, 1 January 1958 to June 1958* (Washington, DC: USGPO, 1959), pp. 214-16 and 218.

are determined to control their own forces employed on Forward Defence operations in northern waters."²⁹⁰ At the same time, the US Navy was hoping to obtain base rights in Scotland in support of northern operations. As early as December 1956, the "matter of the Clyde base" had briefly been discussed between the Minister of Defence, Anthony Head, and Admiral Wright. When Sir Michael Denny in Washington wrote to Mountbatten about the meeting, he described how

*Wright made a very good dissertation and established that the need arose from the forward strategy concepts leading to the application of the Atomic Strike from the Strike Fleet Atlantic at the earliest moment from D Day.*²⁹¹

Following the "semi-successful" ASW phase of 1957 autumn manoeuvres, Admiral Wright's major objective became one of preventing Soviet Northern Fleet submarines from entering into the Atlantic, whence the task of locating them would be much more complex. The routes of entry into the North Atlantic he considered to be, first, through the Greenland-Faroes-Scotland-Norway area and, second, the Spitzbergen-North Cape area. In both of these approaches Wright in late 1957 proposed to set up peacetime "Detection Zones."²⁹² According to the British Joint Planning Staff:

Upon "general alert" being declared, SACLANT plans to create a barrier by reinforcing the Greenland-Iceland area and to establish patrols in the Spitsbergen-North Cape area. By creating a barrier at the outbreak of war,

²⁹⁰ COS(58)99, 9 April 1959, Facilities in the UK for US Naval Forces (Note by the First Sea Lord), DEFE 5/83, PRO.

²⁹¹ Sir Michael Denny to Lord Mountbatten, 20 December 1956, DEFE 205/110, PRO.

²⁹² JP(57)124(Final), 6 November 1957, Allied Command Atlantic Minimum Forces Study, 1958-1962, DEFE 6/43, PRO.

*he plans to contain the enemy's naval forces within the Barents and Norwegian Sea. He considers this forward defence plan gives the best hope of neutralising the Soviet submarine threat with the forces likely to be at his disposal.*²⁹³

The COS, however, showed little enthusiasm for the "barrier" concept. As for establishing peacetime detection zones, Lord Mountbatten thought that instituting "the first supervisory detection patrol at sea to be operated clearly to detect Russian movements ... might be considered provocative."²⁹⁴ The Joint Planning Staff believed such zones might provide useful intelligence, but foresaw many "political difficulties such as Norwegian objections."²⁹⁵ Moreover, the COS felt that there was a risk that if the US Navy chose to concentrate on the entrances to the North Atlantic, the forces available in the initial phase for the direct protection of shipping, seen as vital to Britain, would be diminished.²⁹⁶ The US Navy, however, was determined to implement the forward strategy concept in spite of British reservations on certain aspects, and succeeded in enshrining an emphasis on "forward operations" in MC 70 (NATO's Minimum Essential Force Requirement, 1958-63). This key NATO document stated that submarine gap patrols should be established in the Greenland - Iceland - Faroes - Norwegian Gap, to serve as early warning barrier in peacetime and "firm barrier in war."²⁹⁷

²⁹³ *ibid.*

²⁹⁴ COS(58)99, 9 April 1959, Facilities in the UK for US Naval Forces (Note by the First Sea Lord), DEFE 5/83, PRO.

²⁹⁵ JP(57)124(Final), 6 November 1957, Allied Command Atlantic Minimum Forces Study, 1958-1962, DEFE 6/43, PRO.

²⁹⁶ JP(58)45(Final), 18 April 1958, Facilities in the United Kingdom for United States Naval Forces, DEFE 6/50, PRO.

²⁹⁷ *ibid.*

In January 1958 Lord Mountbatten, in a letter to the Chief of the Air Staff, Sir Dermot Boyle, informed him about a recent visit by Admiral Eccles to the US. Eccles noted that Admiral Wright was now "sold on the forward strategy concept and intends to adopt it gradually from now on."²⁹⁸ Moreover, he felt "reasonably convinced" that Wright was intending to set up a separate command under a US Flag Officer to conduct the anti-submarine forward barrier in the NORLANT area.²⁹⁹ Eccles concluded:

*To sum up - with the increasing preponderance of US air and surface forces in the EASTLANT area, they are determined to increase their operational control in the front line areas, this in spite of their holding command of the Strike Fleet ... The impending decrease in British forces and influence in the area is a strong factor in hardening their attitude.*³⁰⁰

A personal letter from Burke to Mountbatten the following month confirmed Eccles's conclusion. Burke stressed that "any diminution in the Royal Navy or in the strike role or the anti-submarine warfare role means that the tasks which must be done will fall more heavily on our shoulders."³⁰¹ On 11 April 1958 Admiral Woods, a submariner and the British Deputy to Admiral Wright, wrote to the First Sea Lord, pointing out how SACLANT was increasingly concerned about the Soviet SSBN threat and his feeling that

²⁹⁸ Lord Mountbatten to Sir Dermot A. Boyle, CAS, 1 January 1958, MB1/I311, Folder 2, Mountbatten Papers, Archives and Manuscripts, Southampton University Library.

²⁹⁹ *ibid.*

³⁰⁰ *ibid.*

³⁰¹ CNO, Admiral Arleigh Burke to First Sea Lord, Lord Mountbatten, 4 February 1958, PRO, ADM 205/173.

*the Submarine transit offensive in the northern narrows will become increasingly important as the Russian SSN and SSG potentiality grows in the next five years.*³⁰²

It was against this background that the COS met to discuss a specific US request for "agreement in general principle" to base naval forces in Britain in support of "forward defence operations in Northern waters."³⁰³ The initial request was for stationing six radar picket frigates, 24 naval patrol and 12 early warning aircraft, one submarine depot ship and a squadron of about 12 hunter-killer submarines.³⁰⁴ Additionally, it was understood that the US Navy and the Third Air Force had also approached the Air Ministry with regard to similar facilities for US aircraft.³⁰⁵ The American submarines were intended to form the nucleus of a submarine detection zone in the Greenland-Iceland-Faroes Gap.³⁰⁶ The following month, when the Admiralty Board met to discuss changes in NATO naval commands, it took note of the "desire of the United States Navy to provide considerable forces for the Northern sub-area and to base some of the forces of ships concerned in this country in peacetime."³⁰⁷ Lord Mountbatten believed that the Americans wanted to have at least one or two commands on the Eastern Atlantic seaboard with front line operational responsibilities.³⁰⁸

³⁰² From Vice-Admiral W.J.W. Woods, to First Sea Lord, 11th April 1958, ADM 205/173, PRO.

³⁰³ JP(58)45(Final), 18 April 1958, Facilities in the United Kingdom for United States Naval Forces, DEFE 6/50, PRO.

³⁰⁴ *ibid.*

³⁰⁵ COS(58)99, 9 April 1958, Facilities in the UK for US Naval Forces, Note by the First Sea Lord, DEFE 5/83, PRO.

³⁰⁶ JP(58)45(FINAL), 18 April 1958, Facilities in the UK for US Naval Forces, DEFE 6/50, PRO.

³⁰⁷ Board Minutes, Thursday, 8 May 1958, ADM 205/176, PRO.

³⁰⁸ *ibid.*

When the issue of naval command structures came up again for consideration by the Board in October, the US proposal for a "North Atlantic barrier force" was discussed. The Board expressed concern about the growing US dominance of all naval arrangements in the North Atlantic. The minutes record that

*unless the United Kingdom could soon make a concrete proposal for the integration of the command of the barrier force in the NATO structure, the United States Navy would proceed to set up the command as a purely functional one, responsible directly to the Commander-in-Chief, Atlantic.*³⁰⁹

Partly because of the advantages which the Royal Navy thought it would gain by closer *operational* cooperation with the US, it was decided to accept the US request for shore facilities.³¹⁰ The government granted the US request for shore installations "to date from about 1960."³¹¹ The *actual* US forward submarine patrols, however, began much earlier. In fact, the submarine/air barrier patrols between Greenland and the Faroes were instituted in the summer of 1958, using submarines and aircraft based on Keflavik in Iceland. Twelve submarines and two squadrons of maritime patrol aircraft were involved in these patrols. When Admiral Burke asked the Admiralty whether the Royal Navy could take over the patrols

³⁰⁹ Board Minutes, Thursday, 2 October 1958, ADM 205/176, PRO.

³¹⁰ It should be added here that Anglo-US defence relations at the time were going through a particularly good period with the repeal in July 1958 of the McMahon Act and the signature in its place of the Agreement for Cooperation on Uses of Atomic Energy for Mutual Defence Purposes. Alistair Home, "The Macmillan Years and Afterwards," in *The Special Relationship: Anglo-American Relations Since 1945*, ed. Wm. Roger Louis and Hedley Bull (Oxford: Clarendon Press, 1986), pp. 89-90.

³¹¹ COS(58)185, 31 July 1958, US/UK forces in the Atlantic, Note by the Admiralty and Air Ministry, DEFE 5/84, PRO.

for three weeks starting in early August 1958, the Admiralty found that the required deployment of UK forces would have absorbed "all the operational submarines in Home waters."³¹²

There is some evidence that US concern about the Soviet sea-launched missile threat to its eastern seaboard led the US Navy to consider withdrawing a large number of surface ships to the Western Atlantic. The fact that this did not happen was partly attributable to British pressure. More important, however, as the Joint Planning Staff rightly pointed out

*irrespective of the threat to the eastern seaboard of America, they [US Navy] regard the eastern side of the Atlantic as the main battle area.*³¹³

Norway and US Forward Strategy

On 13 May 1958 President Eisenhower met with Norwegian Prime Minister Einar Gerhardsen and Sam Rayburn, the Speaker of the House of Representatives, in the White House. After the meeting, Eisenhower in a letter to Rayburn wrote that it had been "a fortuitous circumstance" that both of them had been able to talk to Gerhardsen, whose country was "a particularly important factor in all our calculations concerning the defence of the North East Atlantic."³¹⁴ That Eisenhower chose to emphasise this particular aspect of Norway's contribution to US strategy was clearly neither fortuitous nor a matter of political tactics. Between 1957 and 1960 there were four specific areas in which Norway made an increasingly important contribution to US maritime strategy. *First*, intelli-

³¹² *ibid.*

³¹³ JP(58)45(Final), 18 April 1958, Facilities in the United Kingdom for United States Naval Forces, DEFE 6/50, PRO.

³¹⁴ Letter from DDE to The Hon. Sam Rayburn, May 13 1958, OF 208, Box 883, Dwight D. Eisenhower: Records as President, White House Central Files, OF205(2), DDEL.

gence activities and cooperation in northern waters intensified. *Second*, maritime and tactical airfields in the northern part of the country continued to be modified to meet US Navy standards and also saw a marked increase in operational activity. *Third*, shore-based communication facilities, capable of providing operational support to the Strike Fleet, were improved, while storage depots for naval forces were constructed in south Norway. *Fourth*, infrastructure to meet the navigational requirements of the Fleet Ballistic Missile submarines deployed in the North Atlantic were constructed on Norwegian territory.

The estimated difficulties of detecting nuclear-powered submarines in ocean areas increased the importance of *current intelligence* gathered near the submarine base area. For this reason, Admiral Wright noted in 1959, he would now "have to keep even closer anti-submarine watch on the coastal areas around NATO borders."³¹⁵ Similarly, the ONI study on the vulnerability of the Northern Fleet to air attack in April 1959 concluded that the value of current intelligence on the disposition of forces could not be overemphasised.³¹⁶ As a result, technical intelligence operations, especially ELINT flights from UK and Norwegian bases into the Barents Sea, increased towards the end of the decade. In late 1959 and early 1960 both British and US authorities asked for permission to increase the number of ELINT flights staged from Norway. This proposal was, however, quickly rejected by the Nor-

³¹⁵ Admiral Jerauld Wright, "NATO's Naval Forces," *NATO's Fifteen Nations* (Spring 1959).

³¹⁶ "Vulnerability of Northern Fleet to Air Attack," *The ONI Review* vol. 14, no. 4, 1959.NHC. The comprehensive Lang Report on US overseas bases in April 1960 also stressed the need for "intensified intelligence activities from posts situated around the communist bloc" and "more efficient visual, photographic or electronic observation of the enemy homeland." Review of US Overseas Military Bases (Lang Report), April 1960, Base-Rights (4), Box 2, NSC Series - Subject Subseries, WHO: Office of Special Assistant for National Security Affairs, DDEL.

wegian authorities on political grounds, that is, the scale of the programme might increase tension in the area.³¹⁷ By the late 1950s HF/VHF SIGINT stations at Vadsø and Vardø in Finnmark were providing the US with extremely important information about Soviet missile test activity in the Barents and White Sea area, while intercepting Soviet ship-to-ship, ship-to-shore and air-to-ground communications in the same area.³¹⁸

Of particular concern to US naval intelligence appears to have been Norway's arctic possessions, especially the Svalbard archipelago, whose strategic location and political status made it a particularly sensitive area. An ONI report in August 1954 had appraised the military significance of the archipelago. The report emphasised that it provided an ideal site for "air facilities, guided missile emplacements, weather and Loran stations and radar posts."³¹⁹ The ONI singled out two specific reasons for a naval interest in the archipelago. First, the islands could provide extremely valuable bases for anti-submarine operations, potentially offering harbours and airfields all the year round "only 700 miles from Murmansk and only 480 miles from the northernmost part of Norway." Secondly, as long as Svalbard remained "in neutral or friendly hands", carrier task forces could attack the Soviet Union from the Barents Sea with much less risk, since "nowhere else could the carriers approach so close to vital targets in the Soviet Union."³²⁰ As well as identifying three possible locations offering "excellent possibilities" for construction of air strips,

³¹⁷ Notat, Rekognoseringsflyvninger, 9 desember, 33.6/14b, Bd.I, UD. See also Tamnes, *Cold War in the High North*, pp. 122-124, and 177.

³¹⁸ These stations were manned by Norwegians, though technical equipment, assistance and training of personnel attached to radio intercept stations were provided by the CIA.

³¹⁹ "Svalbard," *The ONI Review*, vol. 9, no. 8, 1954, NHC.

³²⁰ *ibid.*

the ONI observed that since many of the intercontinental bombing routes passed "over or within fighter range of Svalbard," air bases for refuelling and for fighter escorts "would be very advantageous."³²¹ This evident interest in Svalbard continued throughout the decade, and developments on the archipelago were closely monitored by service intelligence branches.³²² It is clear also that the more senior levels of the US administration were seriously concerned about threats to the islands emanating from the Soviet Union itself or orchestrated by the Russian community already present on the archipelago. Specific policy guidance with respect to Scandinavia, drawn up by the NSC in the spring of 1960 and amended in October, contained a separate paragraph emphasising the importance of urging "Norway to maintain effective surveillance of Soviet activities in Spitsbergen."³²³ Additionally, the NSC agreed that the US would have to "be prepared to concert with Norway and other interested nations in protesting any Soviet violations of the demilitarization provisions of the 1920 treaty and in refusing to consider any revision of the Treaty that would permit the establishment of Soviet political authority or military bases in the Archipelago."³²⁴ This paragraph in the NSC report was, according to Robert Cutler, one

³²¹ *ibid.*

³²² See, for example, Memorandum, From: Ass. Director of Intelligence, To: Distribution List, Subject: Special Presentation on SVALBARD Expedition, 17 October 1955, A-5, Box 315, Strategic Plans Division Records, NHC; "Intelligence Brief," ("The 'Scientific' Base on Spitsbergen."), *The ONI Review*, vol. 11, no. 4, 1956, NHC; Memorandum, Franz Josef Land Electronic Reconnaissance Flight of 20 May 1953, 26 May 1953, TS. No. 3-1900 to 3-2699 (1953), Entry 214, Rg.341, NARA.

³²³ Memorandum to J. Lay, 10 November 1960, enclosing additions to NSC 6001/1, Box 28, NSC Series - Policy Papers Subseries, WHO: Office of the Special Assistant for National Security Affairs, DDEL.

³²⁴ *ibid.*

of only four extensions of present policy contained in the NSC review of US policy towards Scandinavia.³²⁵

Construction of maritime and tactical airfields in North Norway intensified after 1957, and by 1960 "final acceptance inspection on major items" and off-base facilities at Bodø, Ørlandet, and Andøya could take place.³²⁶ Apart from actual construction, US maritime patrol and mining aircraft also increased the rate of operational sorties and training missions out of Norway. In January 1958, Admiral Eccles told the First Sea Lord that the post of Commander of US Navy maritime air squadrons in Iceland would be upgraded to Rear Admiral, and that this was a further sign of US commitment to the forward strategy concept.³²⁷ During a planning conference held in Norway in 1958 "plans, not yet finally ratified by SACLANT, for an increased war deployment by CINCAIREAST-LANT aircraft on Norwegian bases, were analyzed in detail and the operational implications assessed."³²⁸ The time phasing of these plans was such that "undue interference" with tactical air operations was foreseen. Hence, "several conferences" were held to study the necessary infrastructure facilities and logistics requirements, and "some major construction projects for SACLANT" were agreed.³²⁹ This suggests that the wartime

³²⁵ Briefing Note for NSC Meeting, 1 April 1960, Attached to summary of 439th NSC Mtg., Box 12, NSC Series, Dwight D. Eisenhower, Papers as President of the US 1953-61, DDEL.

³²⁶ Annex 5, NEC Historical Report, 1 January - 31 December 1959, SECCOS, HQ AFNORTH. In addition to these maritime air facilities, other airfields were also upgraded with infrastructure funds.

³²⁷ Lord Mountbatten to Sir Dermot A. Boyle, CAS, 1 January 1958, MB1/1311, Folder 2, Mountbatten Papers, Archives and Manuscripts, Southampton University Library. These squadrons were designated for operations in Norway.

³²⁸ NEC Historical Report, 1 Jan. 1958 - 31 Dec. 1958 (Tasks and Projects), SECCOS, HQ AFNORTH.

³²⁹ *ibid.*

importance of the bases was being upgraded.³³⁰ Finally, North Norwegian airfields continued to be available for carrier-based aviation when the Strike Fleet was operating in the North-eastern Atlantic. Against this background of increased activity the 5th and 6th planning coordination meetings between SACLANT and SACEUR in 1958 specifically discussed the coordination of SACLANT's air activity in the Northern Command area. According to the NEC annual report, one of the major items

*concerned the SACLANT pre-planned targets in the area adjoining the Northern Command, on which more detailed information was sought. This information, previously withheld, may now be forthcoming.*³³¹

Whereas long-range submarines were still considered by SACLANT to be the greatest threat confronting the ACLANT naval forces after 1957, two additional threats are given greater prominence in his 1958 Emergency Defence Plan. First, the air threat was assumed to have "considerably increased" with the introduction of BADGER medium bombers into the naval air arm.³³² The main threat was thought to emanate from naval and air units with the Northern Fleet, "probably augmented prior to D-Day by some units of their

³³⁰ "Bodø Flyplass bygges ut for tunge jetfly," *Arbeiderbladet* 21 March 1958, "Utbedring av flyplasser av infrastruktur-midler," *Arbeiderbladet*, 17 January 1959. For the "important" role of maritime aircraft in Norway by 1960, see also SACLANT Press Release, "Maritime Patrol Aircraft Have Important Role in NATO Exercises," FALLEX 60, 28 September 1960.

³³¹ NEC Historical Report (AIRNORTH), 31 Dec. 1957-31 Dec. 1958, SECCOS, HQ AFNORTH. SACLANT's failure on previous occasions to forward target information again suggests a high degree of planning autonomy as well as an absence of proper coordination in nuclear planning.

³³² JP(57)146(Final) 22 November 1958, SACLANT's Emergency Defence Plan for 1958, DEFE 6/44, PRO. See Chapter Three.

Baltic Fleet and their Long Range Air Force."³³³ For this reason specific air defence requirements for the Strike Fleet to receive early warning information from shore-installations (Sector Operating Centres) in Norway were agreed in 1958 between SACLANT and national authorities. In addition to the air defence information, in November 1958 representatives from SACLANT reported that they were planning to utilise air control and reporting (C&R) systems in Norway for routing tactical bombing aircraft to forward directors.³³⁴ In 1958, infrastructure funds were also specifically allocated to "improve communications with SACLANT" from Norway.³³⁵ The second additional threat that was emphasised in SACLANT's 1958 EDP also had a direct bearing on Norway. For the first time SACLANT listed the existence of a "limited amphibious threat ... in the north-eastern part of the ACLANT region."³³⁶

Limited War on the Northern Flank?

As long as "massive retaliation" retained at least an element of credibility, very little attention was paid in Washington or in Paris to Norway's relationship to the central European front. Nor, as indicated in preceding chapters, was there much concern about *direct* threats to Norwegian territory. Indeed, John Foster Dulles, in his so-called "massive retaliation" speech before the Council on Foreign Relations in January

³³³ *ibid.*

³³⁴ Historical Report, 1 January - 31 December 1958 (Tasks and Projects), SECCOS, HQ AFNORTH. Between 1958 and 1960 infrastructure funds were specifically allocated to upgrade communications between naval forces and NATO's Northern Command (2 "radiostations" were approved in 1958). St.prp. nr. 88. p. 3.

³³⁵ St.prp. nr. 88, 1958, p. 2-3, and St.prp. nr. 12, 1959, p. 2.

³³⁶ JP(57)146(Final) 22 November 1958, SACLANT's Emergency Defence Plan for 1958, DEFE 6/44, PRO.

1954, stressed that a continuation of traditional American policies would have forced the US

*to be ready to fight in the Arctic and in the Tropics; in Asia, the Near East and in Europe; by sea, by land and by air; with new and old weapons.*³³⁷

The budgetary, economic and social consequences of such an effort would, according to Dulles, inevitably result in self-exhaustion.

By late 1957 and early 1958, however, the premises of massive retaliation were increasingly being questioned not only by Democratic Senators and influential academics, but also by critics within the administration.³³⁸ Already in June 1956 the Joint Intelligence Committee reviewing the Joint Strategic Capabilities Plan for 1 July 1956 to 30 June 1957, pointed out how "military conflict short of general war may become more likely as both sides achieve the capability to destroy each other even after surprise attack."³³⁹ It was, however, the Soviet ICBM announcement in August 1957, and, more significantly, the launching of Sputnik in October which most crucially undermined a central assumption of US nuclear strategy since late 1953: the relative invulnerability of the US continent to *direct* strategic attack. Once Sputnik demonstrated that the North American continent was no longer impervious to a

³³⁷ Address by John Foster Dulles, "The Evolution of Foreign Policy", 12 January 1954, reprinted in *US Nuclear Strategy: A Reader*, ed. P. Bobbitt, L. Freedman, G.F. Treverton (London: The Macmillan Press Ltd., 1989), p. 124.

³³⁸ Jane E. Stromseth, *The Origins of Flexible Response - Nato's Debate over Strategy in the 1960s*, London: The Macmillan Press/St Antony's, 1988), p. 19. A prominent critique of administration policy before this was produced by William Kaufmann, "The Requirements of Deterrence," in *Military Policy and National Security*, ed. W.W. Kaufmann (Princeton: Princeton University Press, 1956).

³³⁹ JIC 498/199, JIC on Joint Strategic Capabilities Plan, 1 July 1956 - 30 June 1957, 12 June 1956, JCS 1954-56, JIC Papers, ccs 334 JIC (12-28-55) sec. 10, Rg. 218, NARA.

direct strategic threat, the implications of a "nuclear stalemate" with the Soviet Union gradually came to affect perceptions about Norway's vulnerability to Soviet military and political pressure. In the wake of Sputnik, the dangers of Soviet "operations with limited objectives, such as infiltrations, incursions or hostile local actions in the NATO area" became a subject of greater concern within the US and especially among Norwegian military and government officials.³⁴⁰ When the Norwegian Chiefs of Staff argued for the need to strengthen defences in the border areas with the Soviet Union, they emphasised that:

*The development of modern weapon systems has, among other things, led to a situation where the border area between Norway and the Soviet Union has acquired a considerably greater significance (en vesentlige større betydning) for Norway - and therefore for NATO - than it has had in the past. With its dominant position, the Soviet Union - if it wishes - can easily create "episodes" and even "provocations" which would require swift, independent and considered responses on the Norwegian side. What happens in the border area can therefore quickly acquire a significance outside the purely local context (trans.)*³⁴¹

Similarly, when British defence officials visited Oslo in May 1960 to discuss UK defence policy at the invitation of the Norwegian Defence Minister, "they found that the principal Norwegian preoccupation was the effect of a possible limited

³⁴⁰ JCS 2073/1555, Report by the JSPC to the JCS on Understanding of Certain Terms, JCS Geographic File 1958, ccs 092(3-12-48)(2), Rg.218, NARA.

³⁴¹ Forsvarsstaben til Det Kgl. Forsvarsdepartement, 17 Oktober 1958, "Pasvikutbyggingen - utvidelse, eventuelt omorganisering, av Grense-oppsynet i Sør-Varanger", Nsj.Hem. 893/010, FD. See also Lt.Gen. Bjarne Oen, "Aktuelle militære problemer i forbindelse med gjennomføringen av den nye forsvarsorganisasjon," (Speech 28 October 1957), *Norsk Militært Tidsskrift* 116 (1957), pp. 691-92.

incursion into Northern Norway."³⁴² The British, however, especially during Duncan Sandys's tenure as Defence Minister, were strongly opposed to any concept of limited war in the NATO area, and it was the US Navy which appeared most receptive to Norwegian concerns.³⁴³ In fact, the US Navy had long been concerned about potential Soviet interests in North Norway.³⁴⁴ In late 1953 Arleigh Burke had emphasised that the "critical" importance of the northern waters derived in part from the fact that

*the northwestern and northern coasts of Norway are extremely attractive sites for submarine bases. The fjords are ideal places to construct sub pens tunnelled into cliffs rising from the sea. Were the Soviets to capture these coastal areas by amphibious operations, they could construct submarine bases in the fjords that would be all but invulnerable to air attack.*³⁴⁵

As the Soviet submarine fleet increased and the ability of naval infantry forces on the Murmansk coast to conduct amphibious operations improved, the Chief of Naval Operations became more concerned about direct threats to North

³⁴² The Norwegians wanted to know whether the Alliance would help with conventional forces or whether a full-scale nuclear war would follow. "Brief for Macmillan's visit to Norway, 7-10 June 1960," ND, FO 371/151721, PRO.

³⁴³ The US Army, especially during General Maxwell Taylor's tenure as Chief of Staff from 1955 to 1959, also strongly advocated the build-up of conventional forces for limited war, though the main concern in the 1950s was not with the northern flank in Europe. See Maxwell Taylor, *The Uncertain Trumpet* (London: Atlantic Books Stevens & Son Ltd., 1959), p. 62.

³⁴⁴ The Navy had also been opposed to aspects of the "New Look" in 1953 on the grounds that it was a "prepare-for-one-type-of-war-policy." See, "Congress takes a look at "New Look" in Defence," *US News & World Report*, 26 February 1954.

³⁴⁵ Memorandum from Arleigh Burke to Distribution List, 13 October 1953, enclosing "Study of Attack Carrier Force Levels (Cold War)," A4, Box 280, Strategic Plans Division Records, NHC.

Norway.³⁴⁶ Navy representatives argued that a condition of "true nuclear stalemate" would "result in added stimulus to actions short of all-out war -- stepped up cold war activity and increased likelihood of local or limited wars."³⁴⁷ And this prospect was assumed to give the Navy, especially its carrier striking force, added importance, given its capacity for "precise and discriminate delivery of weapons, conventional as well as atomic."³⁴⁸ According to an internal Navy report which Burke sent to Mountbatten in early 1958, it was argued that:

Recent Soviet developments and acceleration of ballistic missile programs will result in a more complete condition of thermonuclear stalemate sooner than originally anticipated. All-out war will be more unthinkable, but at the same time added stimulus will be given to cold war activity and increased likelihood of limited war...

The carrier striking force will become more indispensable than ever for countering limited war situations, but at the same time will retain a versatility to meet the demands of all-out nuclear war if such should occur.³⁴⁹

The following year Admiral Wright, testifying before Congress, specifically referred to the desolate, trackless and thinly-inhabited provinces of North Norway as a "sensitive area of NATO" which, along with Berlin and the Turkish frontier,

³⁴⁶ Interview with Admiral Arleigh Burke, 18 July 1990, Fairfax, Virginia.

³⁴⁷ Letter from CNO, Arleigh Burke, to First Sea Lord, Lord Mountbatten, 4 February, 1958 and enclosed study of "The Carrier Task Force in the Missile Age", ADM 205/173, PRO.

³⁴⁸ *ibid.*

³⁴⁹ *ibid.* Burke reiterated his concern about going "too far down on the megaton road" and its implications for "small wars" in another letter to Mountbatten in May, Arleigh Burke to First Sea Lord, 10 May 1958, ADM 205/173, PRO.

might in the future be subject to Soviet "probing actions."³⁵⁰ This so-called "Finnmark grab" scenario under conditions of nuclear stalemate also received some attention from professional commentators. In a paper in September 1959 Captain Liddell Hart wrote that "No area so easily lends itself to, and invites, this kind of "twenty four hour pounce" as does the Scandinavian stretch on the Northern Flank of NATO, especially in its present state of acute weakness."³⁵¹

In spite of the US Navy's interest in the problem, however, until the Kennedy administration assumed office, only very limited measures were undertaken in order to prepare for limited war contingencies on the Northern Flank. Furthermore, none of these measures appear to have gone far beyond the planning stage in the 1950s. On 13 June 1953 SACEUR directed CINCNORTH to outline operational plans and logistic requirements for the employment of US Marine forces in Norway and Denmark.³⁵² Over the next two years a series of coordination and planning conferences were held by the principal commanders concerned but no substantive progress appears to have been made. In late 1957 the Norwegian MOD approved a visit by 21 US Marine Corps officers from Fleet Marine Force Atlantic to observe exercises in North Norway. The purpose of this visit which took place in early 1958, was to "observe tactics, equipment, weather and terrain" in connection with SACEUR's Strategic Reserve Plan No.1 for North

³⁵⁰ Proposed Presentation to Congress by Admiral Jerauld Wright, Commander in Chief, US Atlantic Fleet, February 11, 1959, J.C.S 1959, CJCS 092.2 (N. Twining Records), Rg. 218, NARA.

³⁵¹ B.H. Liddell Hart, "NATO's Weakest Spot - the Northern Flank," (MF) B/NATO/2J, IISS. The paper appears to have formed the basis for a subsequent article, "Danger on the Flanks of NATO," published in the *US Marine Corps Gazette* in January 1961.

³⁵² NEC Historical Report, 1 July 1954 - 30 June 1955, SECCOS, HQ AFNORTH. These forces were in peacetime earmarked as SACEUR's strategic reserve.

Norway.³⁵³ Preliminary studies for the concept of employing ACE mobile Forces in North Norway were only completed in 1960, and these studies were deemed to require further detailed area studies of North Norway, again covering terrain, weather, logistic and support facilities.³⁵⁴ By 1960, no firm decision had been made about the prestocking of heavy equipment in North Norway.³⁵⁵

An important reason for the lack of progress in this area was that Eisenhower himself remained very sceptical about diverting resources toward limited war planning in Europe. But more importantly, even after 1957 the US Navy was not prepared to divert resources away from its *primary* commitment to nuclear strike operations against Soviet targets in the Northern area. In this they were in full agreement with the British. In November 1958 the First Sea Lord circulated a letter from the Commander-in-Chief, Home Fleet, which accurately summed up both American and British attitudes. The letter noted that "Jerry Wright very wisely refuses to commit himself to support of North Norway regardless of other factors."³⁵⁶

³⁵³ NEC Historical Report, 1 July 1956 - 31 Dec. 1957, SECCOS, HQ AFNORTH.

³⁵⁴ NEC Historical Report, 1 Jan. 1960 - 31 Dec. 1960, SECCOS, HQ AFNORTH.

³⁵⁵ Annex 5 to NEC Historical Report, 1 Jan. 1960 - 31 Dec. 1960, SECCOS, HQ AFNORTH.

³⁵⁶ Office of the First Sea Lord, NATO, 4 November 1958, MB1/I311, Folder 2, Mountbatten Papers, Archives and Manuscripts, Southampton University.

Norway and the US fleet ballistic programme³⁵⁷

Norway and US Nuclear Strategy

It has already been argued that Norway between 1954-60, by virtue of the operational support given to the Strike Fleet from its territory, was inextricably tied, albeit indirectly, to US nuclear strategy. Norway's relationship to the POLARIS programme further demonstrates the difficulty, when operational policy is taken into account, of pursuing a non-nuclear policy within a nuclear alliance.

Although the actual basing of POLARIS submarines in Norway was considered as an option by the US Navy, no formal approach about this was ever made to Norwegian authorities.³⁵⁸ The Norwegian base policy, as well as the agreements about bases at Holy Loch in the Clyde Estuary and at Rota in Spain, militated against a formal approach to the Norwegians.³⁵⁹ The advantage of basing SSBNs in Norway was that it would have permitted submarines more time on station and less in transit to station. With the first generation of submarines, the need to reduce the period spent transiting from base to patrol areas was a particularly important consideration.

³⁵⁷ The history of the Fleet Ballistic Missile Programme has been examined elsewhere and need not be recounted here since our concern is with the *nature* of Norway's relationship to the programme. For the history of FBM programme, see Harvey Sapolsky, *The Polaris System: Bureaucratic and Programmatic Success in Government* (Cambridge, MA: Harvard University Press, 1972).

³⁵⁸ Interview with Admiral Arleigh Burke, 18 July 1990, Fairfax, Virginia.

³⁵⁹ Interview with Admiral Arleigh Burke, 18 July 1990, Fairfax, Virginia. With later generations of SSBNs, Poseidon and Trident, the need to operate far forward disappeared as both missile accuracy and range increased substantially.

This was because each submarine carried single-warhead Polaris A-1 missiles with a range of only 1,200 miles.³⁶⁰ As the target system for the Polaris was the Soviet "industrial base and government control structure," it meant that the submarines had to operate far forward in the Arctic ocean.³⁶¹

Although the question of basing was not pursued, Norway did become tied to the Polaris programme through its provision of infrastructure facilities designed to support accurate submarine navigation. The need to ensure the highest degree of accuracy in launching the missile into the right trajectory was an urgent concern in the early phase of the Polaris project. A major research and development programme was initiated to that end.³⁶² One important way of ensuring accuracy was to base navigation on the principle of infrastructure redundancy. This meant that parallel communication and navigational aid systems were built and operated.³⁶³ Redundancy allowed the *principal* navigational system for the POLARIS type submarine, the inertial navigator known as the Ships Inertial Navigation System (SINS), to be supplemented by independent sources of position and velocity data.³⁶⁴ Along with its nuclear

³⁶⁰ *ibid.*

³⁶¹ Naval Warfare Analysis Group, Study No.1, Introduction of the Fleet Ballistic Missile into Service, ND, Reference Collection of Misc. Declassified Documents, DDEL.

³⁶² For an early assessment of the technical problems involved and possible solutions, see Frank C. Lynch, Jr., "The Role of Navigation in the Submarine Weapon System," *Navigation* vol. 5, no. 3, (September 1956), pp.128-130, and Capt. E.P. Wilkinson, USN, "Nuclear Submarine Navigation," *Navigation*, vol. 5, no. 7 (Autumn 1957), pp. 332-336.

³⁶³ Infrastructure redundancy was also intended to assure that the even after absorbing a pre-emptive strike, command systems would still be intact.

³⁶⁴ Basically, the SINS was designed to determine true north, speed and vertical ship position in order to allow for accurate missile launching. See Charles D. LaFond, "Special report: FBM Accuracy Starts with SINS," *Missiles & Rockets*, 25 July 1960, pp. 24-26. See

propulsion plant the SINS was designed to give the Polaris submarine a maximum degree of independence from its environment. However, because of inevitable accumulation of errors caused by the effects of gravity anomalies ("gyro drifts"), the SINS could not operate autonomously for an indefinite period of time.³⁶⁵ In the case of Polaris, information from external sources of navigation or "periodic resets" were required every eight hours.³⁶⁶

Two specific sources of "external fixes" involved Norway directly in the FBM programme. The first of these was the Loran-C, a far more accurate version of the Loran system, which was originally developed during the Second World War. In a Defence Department memorandum for the Secretary of State in June 1959, Loran-C was described as a "highly accurate, ground-based, long-range radio navigation system .. being installed overseas by the US Coast Guard at the request of the Department of Defence to fulfil a military requirement generated by the POLARIS program."³⁶⁷ By the late 1950s Loran-C receivers were able to provide navigational accuracy of about a quarter of a mile at 1,000-mile range and they were sensitive to differences of thirty to forty feet.³⁶⁸ This satisfied the "fix-accuracy" requirement for the POLARIS which was

also B. McKelvie and H. Galt, Jr., "The Evolution of the Ship's Inertial Navigation System for the Fleet Ballistic Missile Program," *Navigation*, vol. 25, no. 3 (Fall 1978), pp. 310-22.

³⁶⁵ Joseph F. Caligiuri, "The Navigation System for the Polaris Submarine," *Navigation* 7 (Spring 1960), p. 3.

³⁶⁶ G. Spinardi and D. MacKenzie, "The Shaping of Nuclear Weapons Technology: US Fleet Ballistic Guidance System and Navigation: 1 From Polaris to Poseidon," *Social Studies of Science* 18 (August 1988), p. 431.

³⁶⁷ Memorandum for Secretary of State, enclosure to, JCS 141/95, Report by the J-6 on Long Distance Ground Based Navigational Aids, 24 June 1959, JCS 1959, ccs 6700 (22 June 1959), Box 89, Rg.218, NARA.

³⁶⁸ Spinardi and MacKenzie, "The Shaping of Nuclear Weapons Technology," p. 432.

set at plus - minus a quarter of a mile within the operational area of ground wave coverage.³⁶⁹ By constructing a series of Loran-C networks, it was therefore possible continuously to monitor SINS performance.³⁷⁰

The Loran-C stations built in Norway, however, were originally set up to assist in the establishment of a second source of "external fix" for submarine navigation, namely, detailed knowledge about the ocean bed in which the submarine would operate. An Admiralty document in June 1958 explained that for Polaris submarines to "position themselves with absolute accuracy in Northern waters," the US Navy was now planning to chart the ocean floor so that submarines could "establish their position by echo sounder without surfacing."³⁷¹ In order to provide accurate reference for the necessary survey, the US Navy planned two Loran-C stations in the areas concerned to support the oceanographic survey ships.³⁷²

Mapping the distinctive topographical features and gravity anomalies on the ocean floor also had another potential function in relation to the Polaris project. As an Admiralty paper pointed out, such information made it possible to calculate "ballistic trajectories from fixed positions to pre-

³⁶⁹ Memorandum for the Administrator, Federal Aviation Agency, ND Subj: Long Range Ground-based Electronic Aids to Navigation, Enclosure "C" (Discussion), ccs 6700 (22 June 1959), JCS 218, Rg.218, NARA.

³⁷⁰ *ibid.*

³⁷¹ Annex to COS(58)157, "Admiralty View on Installation of Loran 'C' Stations by the United States," DEFE 5/84, PRO.

³⁷² On the perceived military importance of carrying out ocean gravitational surveys, see Memorandum for Secretary for Defence, 16 October 1956, enclosing, Appendix "A," "DoD Requirements for Ocean Gravitational Surveys", and Appendix "B," "Application of Gravity Data to DoD Requirements," DDC (1981), 57b, 1981.

selected targets."³⁷³ A report approved by the COS on the "strategic implications of Polaris type missiles" requested by the Minister of Defence, noted that the use of "pre-selected firing stations which have been clandestinely marked before hostilities would substantially simplify the navigational aiming problem."³⁷⁴

When the State Department instructed the US Embassy in Oslo in March 1958 to request permission to build Loran-C systems in Norway, the stations were justified in terms of assisting "special survey ships to locate themselves with a high degree of accuracy in preparing charts of the ocean bottom."³⁷⁵ The Embassy was further instructed to point to the importance of Loran-C stations to the Polaris programme only in the most general terms. If, however, elicitation of Norwegian cooperation necessitated more specific details, Ambassador Frances Willis was empowered to "disclose to a very few highly placed and reliable Norwegian officials the concept of using this charted data as a navigation method for POLARIS submarines."³⁷⁶ On 19 May 1958 Halvard Lange was handed an *aide-memoire* by the US ambassador with the official request for a site survey to be made with a view to establishing a "Loran-C installation" on Norwegian territory.³⁷⁷ The *aide-memoire* stated: "The Top Secret military requirement will necessitate the operation of the station for a minimum

³⁷³ COS(59)147 (Annex), 24 June 1959, "Strategic Implications of the Polaris Type Missile," DEFE 5/92, PRO.

³⁷⁴ *ibid.*

³⁷⁵ Quoted in, Owen Wilkes and Nils Petter Gleditsch, *Loran-C and Omega: A Study of the Military Importance of Radio Navigation Aids*, (Oslo: Norwegian University Press, 1987), p. 81.

³⁷⁶ *ibid.*

³⁷⁷ *Loran og Omega: Innstilling fra utvalget til undersökelse av saken om etablering av Loran C og Omega-stasjoner i Norge* (henceforth "Schei-rapporten"), (Oslo: Pax Forlag, 1977), p. 22.

period of about two years."³⁷⁸ In July the Security Committee of the Norwegian Government approved the request. Following a survey by US technical personnel in August 1958, it was decided that Kleppelven near Bø on the island of Langøy in North Norway would be the site of the "transmitter station" and a temporary "monitor" station would be set up on the same island while a permanent "monitor" station would be constructed on the island of Jan Mayen. In January 1959 a formal Memorandum of Understanding was exchanged between the two Governments, whereby it was agreed that the station would be manned by Norwegians and that the US would cover the costs of constructing and operating it. In the summer of 1959 complete Loran-C coverage was scheduled in the North Sea-Barents Sea-Greenland area by 1 January 1960, using a four-station chain.³⁷⁹ The station at Bø became operational in late 1959, but was followed in June 1960 by another "urgent" request, this time for a station on Jan Mayen. The request was discussed in the Security Committee in late July and during this meeting Lange informed the committee that, according to Willis, the station was needed for a period of 18 to 24 months in order to support ocean surveys in the North Atlantic "with a view to the possible deployment of SLBMs of the Polaris-type in the area."³⁸⁰ The construction of the Jan Mayen station and an associated control station at Bjugn was approved by the Government in August and became operational as early as December 1960.

³⁷⁸ *ibid.*

³⁷⁹ Memorandum for the Administrator, Federal Aviation Agency, ND Subj: Long Range Ground-based Electronic Aids to Navigation, Enclosure "C" (Discussion), ccs 6700 (22 June 1959), JCS 218, Rg.218, NARA. The other two stations in the chain *not* on Norwegian soil were located on the Faeros (Ejde) and in Iceland (Keflavik).

³⁸⁰ "Schei-rapporten," p. 46.

In February 1960 the US formally approached Norwegian authorities about the planned operations of US oceanographic survey ships in the Norwegian Sea. Norwegian officials were told that the surveys were related to the Loran-C project and that it would be desirable to use Norwegian ports for replenishment while the ships were operating in the Norwegian sea. The Norwegian Government accepted the request for a nine-month period.³⁸¹ The ships involved, *Dutton*, *Michelson* and *Bowditch*, were all converted from *Victory* hulls in late 1958 in order to "support the Fleet Ballistic Missile Programme."³⁸²

There can be little doubt that the US regarded the establishment of Loran-C stations in Norway as a matter of major importance for the success of the first generation of the fleet ballistic missile system.³⁸³ A report by the Joint Staff in June 1959 described Loran-C as the "only available system that will satisfy the ground-based electronical navigational aid requirements of the POLARIS programme and the seaward extensions of the DEW [Distant Early Warning] Line."³⁸⁴ Since the Norwegian Sea had been chosen as the initial area of operational employment, Norway's contribution was of great importance. This was acknowledged in the comprehensive and "top secret" review of US overseas military bases prepared under the auspices of William Lang, Assistant Secretary of Defence (ISA) in April 1960. The report stated that "by way

³⁸¹ See, Wilkes and Gleditsch, *Loran-C and Omega*, p. 265-266.

³⁸² *ibid.*, and *Jane's Fighting Ships, 1959-60* (London: Sampson Low, Marston & Co. Ltd., 1959), p. 448.

³⁸³ In the mid-1970s, when the Loran-C and Omega installations became the subject of a major domestic political controversy in Norway, the exact relationship between Polaris and Loran-C in Norway was derived from a careful analysis largely of open sources. N.P. Gleditsch, see, "Hvordan og hvorfor Norge fikk Loran C," *Internasjonal Politikk* No. 4 (1976), pp. 823-843.

³⁸⁴ Report by J-6 to JCS on Long Distance Ground Based Navigational Aids, 24 June 1959, ccs 6700 (22 June 1959), JCS 1959, Rg.218, NARA.

of new facilities, Loran-C stations, essential to the POLARIS mission, are being established in Italy, Turkey and Libya and in Iceland, Norway and the Faeroes.³⁸⁵

The construction of the Loran-C stations in Norway was not, however, a matter of public debate at the time, nor did it provoke much discussion within the Government. The reason for this was simple: the relationship of the Loran-C stations to the Polaris programme was an extremely closely guarded secret, with the State Department hoping that details could be confined "to a very few highly placed and reliable Norwegian officials." Wilkes and Gleditsch have in their detailed study emphasised (if only implicitly) that secrecy stemmed from the US concern shared by Halvard Lange about domestic and internal Labour party opposition to closer integration into US nuclear strategy. Domestic political considerations in Norway do not in fact appear to have been a major motivation behind the American or Norwegian emphasis on maintaining secrecy. The need for secrecy had as much to do with the perceived importance of avoiding any leaks about the true purpose of these extremely vulnerable and important stations. This can be seen in the fact that insistence on secrecy in negotiations over Loran-C was observed equally strictly with respect to Britain, which was, after all, going to provide bases for the actual submarines.³⁸⁶ There are two further considerations here. First, the Defence Department was extremely anxious to ensure that the cover story for Loran-C - "an experimental navigational system" - was kept, in part because the government had to secure international frequency allocation for the operation of Loran-C in the 90-110 Kc band. As a top secret Defense

³⁸⁵ These two chains would support Polaris deployments in the Mediterranean and Norwegian Sea respectively. Review of US Overseas Military Bases (Lang Report), April 1960, Base-Rights (4), Box 2, NSC Series - Subject Subseries, WHO: Office of Special Assistant for National Security Affairs, DDEL.

³⁸⁶ See here COS(58)157, 16 June 1958, United States Negotiations for the Installations of the LORAN 'C' Navigation System, DEFE 5/84, PRO.

Department memorandum for the Secretary of State in June 1959, pointed out:

Should governments unfriendly to United States ascertain the real purpose of LORAN-C, an effort may be exerted ... to eliminate navigation systems from the 90 to 110 Kc band. Forced withdrawal of LORAN-C from this band would create unacceptable complications in the POLARIS program.³⁸⁷

Second, the obvious vulnerability of the system to Soviet countermeasures was clearly an overriding consideration in maintaining secrecy.³⁸⁸

Soviet concerns about US Arctic strategy

A major strategic survey by the Joint War Plans Committee (JWPC) in 1947 had observed that "the Murmansk-Kola Peninsula area offers one possible route of approach to the heart of the USSR where entry might be made directly on Soviet soil."³⁸⁹ In fact, ever since the Civil War and the British-led intervention through the ports of Murmansk and Archangelsk in the spring and summer of 1918, the Soviet government had remained acutely aware of its vulnerability in

³⁸⁷ Memorandum for Secretary of State, enclosure to, JCS 141/95, Report by the J-6 on Long Distance Ground Based Navigational Aids, 24 June 1959, JCS 1959, ccs 6700 (22 June 1959), Box 89, Rg.218, NARA.

³⁸⁸ The question raised by the FBM programme in relation to Norwegian base policy will be discussed more generally within the context of US maritime strategy in northern waters after 1955 in the last chapter.

³⁸⁹ JWPC 474/1, "Strategic Study of Western and Northern Europe," 13 May 1947, ccs 092 USSR (3-27-45), sec.20, Geographic File, 1946-47, Rg. 218, NARA. p. 20. Elsewhere the report observed that "Scandinavia appeared to be the most suitable area in Western and Northern Europe for the projection of Allied offensive power."

this part of Russia.³⁹⁰ It was hardly surprising, therefore, that the dramatic technological advances of the 1950s and the concomitant growth of US military interests in the Arctic should generate such concern among Soviet military commentators.³⁹¹ In terms of US maritime strategy, Soviet military writings - appearing in specialist journals such as *Soviet Fleet* (*Sovietsky flot*) and the armed forces newspaper *Red Star* (*Krasnaja svesda*) - tended to concentrate on two developments.³⁹² First, there was deep concern about the emphasis in US deployments and NATO maritime exercises on forward nuclear carrier operations in the Atlantic. Second, Soviet writers devoted much attention to the strategic implications of the employment of the POLARIS submarines in the Norwegian Sea.

In August 1958, shortly after the polar voyages of USS Nautilus and USS Skate, an article in *Soviet Fleet* about the Polaris programme observed that the US was now placing great hopes in the nuclear submarine as "a new weapon that can effectively be used in the vast and difficult-to-reach Arctic areas on the northern seacoast of the USSR."³⁹³ The *Red Star* also viewed the Nautilus voyage under the ice-cap as exclusively a military adventure. The specific objective had been to find

³⁹⁰ Richard Lockett, *The White Generals: An Account of the White Movement and the Russian Civil War* (New York: The Viking Press, 1971), pp. 196-208.

³⁹¹ Among the important technological advances after 1957 were development of new nuclear-powered attack submarines and the first nuclear-powered carrier (USS Enterprise). See Norman Polmar, "Building the United States Fleet, 1947-67," in *Brassey's Annual 1966*, pp. 72-77, and "Dry Dock Launch for US Nuclear Carrier," *Daily Telegraph*, 29 June 1960.

³⁹² References to *Soviet Fleet* are taken from ONI translations. I am most grateful to Maxim Shashenkov, Nuffield College, Oxford, who kindly translated relevant articles in *Pravda* and *Red Star*.

³⁹³ *Soviet Fleet*, 26 August 1958; "Soviet Propaganda on Missile Launching Submarines," *The ONI Review* 14 (February 1959).

ways of using atomic submarines in polar areas for combat actions, and particularly ways of employing rocket weapons by such submarines against the most important centres of the Soviet Union.³⁹⁴

Another article in *Soviet Fleet* in November 1958 on the significance of these trans-polar journeys argued that the specific purpose of the trips had been to "determine the state of the ice cover of the Arctic basin" in order to prepare for strikes against the northern regions of the Soviet Union.³⁹⁵ The previous month an article entitled "The Arctic Strategy of the United States" described the prospective deployment of nuclear-powered submarines with missile capabilities as part of a comprehensive "Arctic strategy."³⁹⁶ Most of these articles referred explicitly to open US literature. And there was no shortage of material indicating that the US Navy was exploring the military potential of the Arctic.³⁹⁷

The concern of the Soviet military about American maritime strategy in the north, however, was most authoritatively

³⁹⁴ Ye. Astrakov and M. Chuprikov, "On the occasion of the journey of the US nuclear submarine Nautilus," *Red Star*, 15 August 1958.

³⁹⁵ *Soviet Fleet* 4 November 1958. See also articles in *Red Star* on 23 March 1958 and 21 November 1958. The latter article by General A. Antonov commented on Nautilus' passage under the Arctic ice cap and US aims in the Arctic.

³⁹⁶ Captain Iu. Nikonov, "The Arctic Strategy of the United States," *Soviet Fleet*, 25 October 1958. On Soviet concern about the "special attention" given to the Arctic by the US, see also Admiral A.T. Chabanenko (Commander of the Northern Fleet), "Protecting the Soviet Arctic," *Red Star* 23 March 1958, and "Soviet Comment on POLARIS," *The ONI Review*, vol. 15, no. 1, 1960, NHC.

³⁹⁷ See, in particular, "Now US has "Bases" North of Russia," *US News & World Report*, 22 August 1958. The article was subtitled: "What US Subs Could do to Russia from Polar Hide-Out." See also Hanson W. Baldwin, "Strategic Value of Arctic proved," *Daily Telegraph* 9 August 1958, and Rear Admiral I.J. Galantin, "The Future of Nuclear-Powered Submarine," *USNIP* (June 1958), pp. 34-35.

expressed in Marshal V.D. Sokolovsky's influential book on *Military Strategy*.³⁹⁸ According to Sokolovsky the most important task for the navy from the outset of any war would be to "destroy enemy carrier-based units...before they come within launching range; ... destroy their protective forces and supply sections; and ... destroy the regions where they are based."³⁹⁹ Sokolovsky specifically referred to NATO's FALLEX 60 exercise, in which a carrier based strike unit from the Norwegian Sea had made 200 simulated nuclear attacks against coastal objectives and other "targets deep within our territory." In war, Sokolovsky argued, the enemy would attempt to "deploy these units in the most important theatres near the socialist countries and to deliver surprise nuclear attacks against coastal objectives (naval bases, air-fields, missile installations)."⁴⁰⁰

In most of the Soviet writings there was naturally a strong propaganda element emphasising the ability of the Soviet armed forces to meet the Arctic challenge. Nikonov, for example, wrote that US plans to utilise the Arctic as a theatre of war were "frankly adventuristic" since the Soviet Union had

*all the necessary and perfectly up-to-date forces and means to nip in the bud any aggressive operations of the imperialists and doom their reckless Arctic strategy to failure.*⁴⁰¹

Nonetheless, the Soviet Union was clearly deeply concerned about the growing might of US sea power close to its vulnerable northern perimeter, and began to adjust its own naval

³⁹⁸ Marshal V.D. Sokolovsky, *Military Strategy: Soviet Doctrine and Concepts* (London: Pall Mall Press, 1959 and 1963).

³⁹⁹ *ibid.* p. 299

⁴⁰⁰ *ibid.*

⁴⁰¹ Captain Iu. Nikonov, "The Arctic Strategy of the United States," *Soviet Fleet*, 25 October 1958.

plans accordingly. According to Michael MccGwire the perceived need to meet the threat from US carriers led to a change in policy in 1957-58, whereby primary emphasis was placed on the nuclear submarines and anti-carrier operations.⁴⁰² This shift can be seen in NATO's Annual Standing Group intelligence assessment for 1959, which estimated that about fifty per cent of the Northern Fleet submarine force would be employed for attack on Carrier Strike Forces.⁴⁰³

⁴⁰² Michael MccGwire, "The Soviet Navy and World War," in *The Sources of Soviet Naval Conduct*, ed. P.S. Gillette and W.C. Frank (Toronto: Lexington Books, 1990), p. 198.

⁴⁰³ As regards the rest of the submarine fleet: 15 per cent would be used for anti-submarine operations; 15 per cent for missile launching; 15 per cent for anti-shipping and 5 for mining. Appendix to Annex to JP(59)140(Final), "Likely Deployment of Soviet Submarines in the Atlantic Area," JP(59)140(Final), 20 November, 1959, DEFE 6/58, PRO.

Conclusion

By late 1960 the US had considerably expanded its role in northern waters. The first US SSBN, *George Washington*, began its first operational patrol on 15 November 1960, and since 1957 the ability of heavy attack carriers to operate for extended periods in the area had been significantly improved. On 9 November 1960 Sir Frank Roberts, the newly-appointed British Ambassador to Moscow, called on his Norwegian counterpart, Oscar Gundersen, to discuss the wider significance of the latest "awkward exchanges" between the Norwegians and the Russians about Spitsbergen and northern Norway. The Norwegian ambassador told Roberts that the "advent of the Polaris submarine and the recent Anglo-American agreement on a Clyde base had made the Russians particularly sensitive as regards their northern sea approaches."⁴⁰⁴ Their sensitivity, Gundersen argued, "was all the greater because they realised they could not hope to keep under control by threat of nuclear retaliation submarines cruising in the Arctic in the same way that they hoped they could keep under control missiles in fixed positions in Turkey."⁴⁰⁵

In the broader context of Norwegian security policy since 1905, the late 1950s saw the culmination of a process that had begun a decade earlier: the growing Norwegian reliance on US military might as the only credible counterweight to Soviet power in the High North. In the late 1940s and early 1950s it had been the US Air Force - both its tactical and strategic branches - which had shown greatest interest in Northern Europe. From 1953-54 onwards, the US Navy, for reasons explored in this study, gradually replaced the USAF as the service with the most direct interest in Norway and its

⁴⁰⁴ Sir F. Roberts to Sir E. Shuckburgh, November 9, 1960, FO 371/151733, PRO.

⁴⁰⁵ *ibid.*

contiguous seas. In concrete terms, this meant that for the first time US carrier battle groups were committed to forward operations in the North Atlantic in the event of crisis or war with the Soviet Union and its Warsaw Pact Allies. Between 1960 and 1990 the "NATO commitment" to Norway was, in the final analysis, always a question about the readiness of the US to commit the Strike Fleet (which in the 1960s and 1970s, unlike the 1950s, became more geared towards amphibious and land-battle support) to operations in the North Atlantic. Although British, Dutch and Canadian earmarking of troops had great symbolic significance, the credibility of the Allied commitment overall was inextricably and chiefly linked to the question of US naval support. Not least important in this respect was the psychological assurance which a regular American presence in the north provided since the Northern Flank, despite Norwegian protestations, had the tendency to become a subject of peripheral strategic concern to Norway's NATO partners in Europe.

It is also for this reason that the winding down of the Cold War raises particularly awkward dilemmas for Norway in the realm of security policy. In terms of the actual provision of security the Alliance throughout the Cold War was, as seen from Norway, first and foremost a multilateral framework for what was essentially a bilateral security guarantee extended by the United States. The inevitable and substantial reduction in the size of the US armed forces and the concomitant reorientation of US strategic priorities and power projection capabilities following the end of the Cold War will of necessity influence the nature of the US-Norwegian Alliance. At the same time, the search for, or more precisely the discussion surrounding, a European defence identity proceeds without Norway as an active participant. In short, while the disappearance of the system of superpower bipolarity has altered the character of the international political system, permanent geostrategic realities and developments in Europe over the past four years have presented Norway with a new set of security dilemmas.

Abbreviations

ACLANT - Allied Command Atlantic
CNO - Chief of Naval Operations (US)
COS - Chiefs of Staff (UK)
DOD - Department of Defence
DDEL - Dwight D. Eisenhower Library, Abilene, Kansas
FD - Det Kgl. Forsvarsdepartement (Norway)
JCS - Joint Chiefs of Staff (US)
NID - Naval Intelligence Division of the Admiralty Staff (UK)
NIE - National Intelligence Estimate
NEC - Northern European Command (NATO)
NHC - US Navy Operational Archives Branch, Naval Historical Center, Washington DC
NARA - National Archives and Records Administration (US)
ONI - Office of Naval Intelligence (US)
OPNAV - Office of the Chief of Naval Operations (US)
PRO - Public Record Office (UK)
SACLANT - Supreme Allied Commander Atlantic
SSB - Ballistic Missile Submarine
SSBN - Ballistic Missile Submarine, Nuclear Powered
ISNIP - United States Naval Institute Proceedings
WHO - White House Office