THE DESTRUCTION OF CONVOY PQ17

27 June–10 July 1942

Milan Vego

The most critical problem for the Western Allies in the northern European theater in 1941–42 was the urgent need to secure the war matériel being sent to the Soviet Union. Initially, the Germans did not react strongly against the Allied convoys sailing to northern Russia. However, that began to change quickly after February 1942, when the Germans redeployed almost all their heavy surface forces and a large number of U-boats from home waters to northern Norway. Attacks by the German Luftwaffe and U-boats became not only more intensive but increasingly deadly. Correspondingly, the Allied convoys suffered ever-larger losses.

Because there were no prospects for opening a second front in 1942, it was vitally important for the Western Allies to keep the Soviet Union in the war; otherwise victory over Nazi Germany would be impossible. Hence, all efforts were made to supply Russia with increasing amounts of war matériel. However, the Western Allies faced serious difficulties in supplying Russia. The routes that offered the shortest transit times were also the most dangerous. The Western Allies had three main alternatives: (1) across the Pacific to Vladivostok; (2) across the southern Atlantic and around the Cape of Good Hope to the port of Basra in the Persian Gulf (called the "Persian Corridor"); and (3) across the northern Atlantic to Iceland and then to the north Russian ports of Arkhangelsk

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and Murmansk (the Arctic route). Each of these routes had advantages and disadvantages. (1) The Pacific route to Vladivostok passed near northern Hokkaido. Hence, after Japan opened hostilities with the United States and Britain in December 1941, it could be used only by Soviet-flag ships. Plus, adding the distance from Russia's Pacific coast to the front lines in the west, this route was the longest of the three. (2) Shipping from U.S. east coast ports had to go via the Cape of Good Hope until July 1943, when the Mediterranean route was opened. The Cape route was about 14,500 miles long and required some seventy-six days to transit.[1] (3) The shortest but the most dangerous route was the Arctic option. The Germans proffered a serious threat to Allied ships by using the Luftwaffe, U-boats, and heavy surface ships based in northern Norway. The Allied problem was made worse by the very poor sailing conditions caused by extreme cold, bad weather, and ice. Despite all these difficulties, the Soviets adamantly insisted on use of the northern route because it could deliver badly needed war matériel more quickly and closer to their forces at the front. Another possible reason was Soviet fear of too strong an Anglo-American presence in Persia.[2] The decision to establish the Arctic route was made by British prime minister Winston S. Churchill (1874–1965), with the full support of President Franklin D. Roosevelt (1882–1945).[3] Admiral Sir Dudley Pound (1877–1943), the British First Sea Lord (1939–43), and Admiral Sir John Tovey (1885–1971), commander in chief (CINC) of the Home Fleet, were opposed to that decision.[4]

The single most devastating action in the resupply effort was the German attack on Convoy PQ17 in July 1942. The Luftwaffe and U-boats sank twenty-two out of thirty-six merchant ships plus one out of three rescue ships during the weeklong attacks. The planned augmentation of this effort in the form of a foray (code-named Unternehmen [Operation] RÖSSELSPRUNG) by the battleship *Tirpitz* and other heavy surface ships was short-lived in execution because Allied forces detected the German ships prematurely. Nevertheless, the Germans achieved a significant victory against the Allies' efforts to supply their embattled Russian ally. In the aftermath, all convoys to Russia via the Arctic route were suspended for almost two months; the next convoy did not sail until 2 September 1942. During the next two years, convoys ran only during the long, dark months of winter. This resulted in much smaller losses than in 1942; subsequently, only four ships were lost, three in 1944 and one in March 1945.[5]

In operational terms, the German attack against Convoy PQ17 was a *major naval/joint operation vs. enemy maritime trade*. For the Allies, the defense of Convoy PQ17 amounted to a *major naval/joint operation to defend maritime trade*. Strategically, this operation was an integral part of the Allies' efforts to defend and preserve their military-economic potential at sea, while the Germans' objective was to destroy it.

STRATEGIC SETTING

At the turn of 1941–42, the strategic situation for the Western Allies in the European theater was very unfavorable. The Germans controlled the entire coast of Western Europe from northern Norway to the Franco-Spanish border in the Bay of Biscay. However, the Germans suffered a series of setbacks in the fall of 1941 and early winter of 1941/42 on the eastern front. Their forces were stopped at the gates of Leningrad (Saint Petersburg today) and Moscow and in southern Russia. They were forced to retreat in the battle of Moscow (2 October 1941–7 January 1942). Yet despite these reverses, the Wehrmacht's power was not broken.

Germany's invasion of Denmark and Norway in April 1940 radically changed the strategic situation in the northern area in Germany's favor. By obtaining control of the Jutland Peninsula / Danish Straits and Norway, Germany greatly weakened Britain's strategic position in the northern area. This loss was somewhat ameliorated by the Anglo-American occupation of Iceland in June 1941; this greatly improved the Allies' ability to control surrounding sea areas within the effective range of their land-based aircraft. They were also able to carry out raids against the German-controlled Norwegian coast.[6]

By controlling Norway, the Germans made it impossible for the British to blockade the Shetlands–southern Norway line, as had happened in World War I (when Britain and the United States established the Northern Barrage minefield). Germany also greatly weakened the British position in the Shetland–Faeroes–Iceland gap. Passage through the northern portion of the North Sea was opened up for German naval forces.[7] Control of the Norwegian coast significantly improved the effectiveness of the Kriegsmarine (navy) and Luftwaffe (air force) in their attacks on enemy maritime traffic in the northern Atlantic Ocean and the Barents Sea.

Nazi Germany also greatly benefited economically from controlling Norway. Among other things, the Germans obtained control of some commodities important to their war industries, including aluminum, copper, paper, and timber. Germany also gained more secure export of Swedish iron ore through Narvik.[8] Along the 1,745–nautical mile (nm)–long route from Oslo in the south to Kirkenes beyond North Cape, some two hundred thousand tons of shipping moved every day. At the same time, the political situation in Norway was difficult for the Germans. The Germans realized that the majority of the populace was pro-British. These Norwegians hoped for a British victory, and that the Germans and Soviets would exhaust themselves in the war.[9]

Hitler placed great strategic importance on Germany's continued control of Norway. He was extremely concerned about the possibility of enemy landings there. Hitler's views were shared by Admiral Erich Raeder (1876–1960), CINC of the Kriegsmarine and the Naval Warfare Directorate (Seekriegsleitung—SKL).

On 10 October 1941, Hitler issued his instruction (Führerweisung) Nr. 37, which assigned new missions to the German armed forces in northern Norway. The Kriegsmarine was directed to attack enemy sea traffic to Murmansk and protect German traffic in the Arctic. Army High Command (Armeeoberkommando, or AOK) Norway, the Luftwaffe, and the Kriegsmarine were directed to cooperate closely during the coming months in preparing to oppose possible enemy landings in front and on the sea flanks of the German forces. Hitler directed the 5th Air Fleet to return to Norway and establish the post of Air Leader (Fliegerführer) North.[10]

On 14 December 1941, Hitler ordered a buildup of defense installations in Norway and the improvement of roads in the coastal area. He believed that if the Western Allies were successful in capturing Norway, they would be able to supply the Soviet Union regularly, thereby posing a serious threat to the German northern front. The enemy also would be able to operate in the Baltic. Information gathered by German agents as well as statements made by Western leaders and other reports in the Western press lent these views new urgency.[11]

In meetings with Admiral Raeder on 29 December 1941 and 12 January 1942, Hitler pronounced that the enemy threat to Norway required redeployment of heavy German ships as a deterrent against such a landing. On the basis of information from Swedish sources, he believed the British and Americans might land between Trondheim and Kirkenes. Hitler considered Norway to be the "Schicksalzone" ("Zone of Destiny") of the entire war.[12] At a meeting with Raeder on 22 January, Hitler stated that, from the latest information, Britian and the United States were planning to attack northern Norway. If successful, this would decisively influence the war.[13] In Hitler's view, every German heavy surface ship that was not in Norway was in the wrong place. Raeder fully agreed with that assessment.[14] Hitler demanded unconditional execution of his orders aimed at enhancing the security of the northern area.[15]

The führer ordered deployment of additional air and naval forces to Norway. Reichsmarschal Hermann Göring (1893–1946), CINC of the Luftwaffe, was directed to reinforce the Luftwaffe's forces in Norway. And these measures had to be sped up, because the danger was immediate.[16] Among other things, the Brest group (battle cruisers *Scharnhorst* and *Gneisenau* and heavy cruiser *Prinz Eugen*) would be redeployed to Norway. Hitler also ordered deployment of additional S-boats (fast-attack craft) to northern Norway and a significant increase in heavy artillery for defense against enemy landings.[17]

OPERATING AREA

During the attack on and defense of Convoy PQ17 in July 1942, the opposing naval and air forces operated in both the Norwegian and Barents Seas (see

map 1); however, the majority of combat actions took place in the Barents. The 550,000-square-mile Barents Sea borders in the west on the Greenland Sea; in the north on the Svalbard Islands (of which the largest is Spitsbergen) and Franz Josef Land (Zemlya Frantsa Iosifa); in the east on Novaya Zemlya; and in the south on the Kola Peninsula and northern Norway. Jan Mayen and Bear Islands are the most important islands within the Barents Sea. The seventy-square-mile Bear Island (Bjørnøya) is the southernmost of the Svalbards. Its highest elevation is about 1,760 feet. The 34-mile-long, 144-square-mile Jan Mayen is a mountainous, volcanic island partly covered by glaciers.

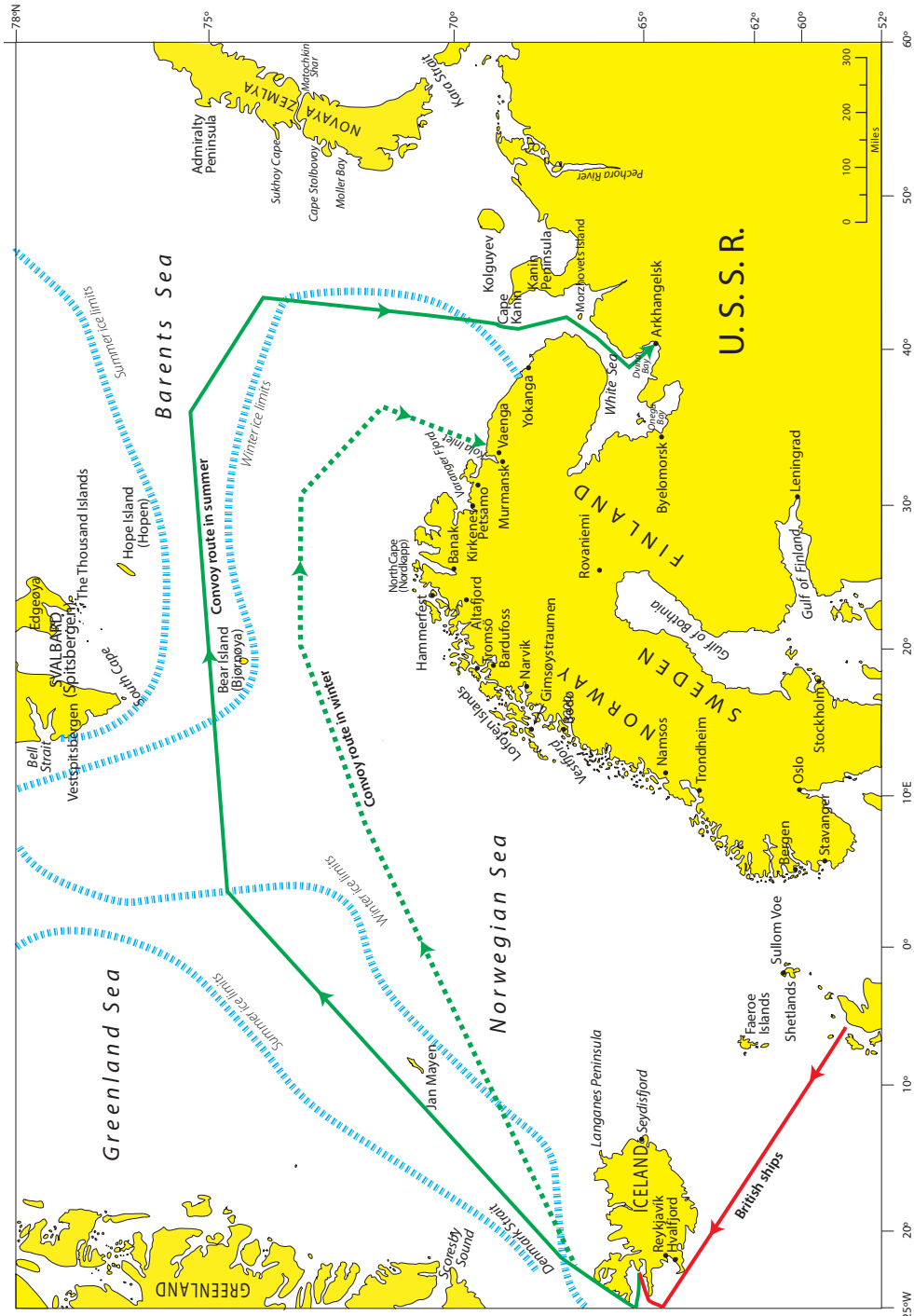
The weather, ice conditions, and duration of daylight in the Barents Sea and the adjoining littoral area greatly influenced the combat employment of surface ships, submarines, and aircraft. In the summer months, good visibility and low sea state generally prevailed.[18] This facilitated air reconnaissance and shadowing. At the same time, long hours of daylight made it considerably more difficult for submarines to conduct their typical night surface attacks. Lack of cloud cover made it more difficult for torpedo bombers to conduct surprise attacks.[19] However, summer visibility was frequently reduced by the presence of fog: June averaged nine days of heavy fog, August nineteen.[20] Dense fog posed a great disadvantage for the attacker because the target could remain concealed.[21]

During the winter months, gales of great violence were frequent. This often negatively affected fully laden eastbound convoys. Deck cargo such as tanks, wagons, and locomotives endangered the safety of ships, forcing them to return to a port of origin. Heavy snow and ice on a ship's upper deck and top-hamper were dangerous if allowed to accumulate, and once formed increased the bulk significantly. The westbound convoys did not carry much cargo. Therefore the light ships ballasted their bows up so as to submerge their propellers, which sometimes made them unmanageable. Escorts also suffered badly; they lost boats, davits, and men on many occasions.[22] Air reconnaissance and the use of destroyers were difficult because of high sea states.[23]

In the Greenland and Barents Seas, the pack ice affected routing of Allied ships bound to and from northern Russia. Generally, it was desirable to keep as far as possible from the German airfields in northern Norway and to evade U-boats lurking between Jan Mayen and Bear Islands. One way to do this was to take ships through the ice; however, the Allies soon learned that the thin hulls of escorts were easily damaged. Also, the ice prevented a convoy from maneuvering as a whole.[24] In general, ice was always a danger for surface ships, even outside the pack—small floes could not be detected easily—so it was preferable to leave a margin of about forty miles from the ice boundary.[25]

The pack ice and icebergs were carried down the east coast of Greenland through the Denmark Strait. The major part of the Denmark Strait was usually

MAP 1
OPERATING AREA



covered by ice. However, ice was seldom found within the hundred-fathom line, because the boundary between the northward-flowing, warm Irminger Current and the cold East Greenland Current usually overlay that line. Sometimes ice crossed that line and came within sight of Iceland's coast.[26] The ice situation in the Denmark Strait greatly affected the routing of Allied convoys to northern Russia. Generally, ice along Iceland's north coast meant that Allied ships sailing out of Reykjavík bound northeastward were unable to pass around the west and north coasts from Reykjavík, instead being routed southward.[27]

The boundaries of the pack ice in the Barents Sea changed considerably over the course of a year. From December to early June, the pack ice normally extended close to or beyond Bear Island. For example, in March the pack's southern limit was the northwestern tip of Jan Mayen Island and the west coast of Spitsbergen, and extending from there to Bear Island and to the Kanin Peninsula.[28] In April, when ice conditions were the worst, with the pack ice boundary at its southernmost, it might be necessary to route ships nearly a hundred miles farther south—leaving only about 150–200 miles to the Norwegian coast.[29] In contrast, when the pack ice boundary moved northward, it was possible to sail in a west-to-east direction in the area between North Cape and Spitsbergen. In a mild season, there was a passage of fifty miles between Bear Island and the ice edge, which allowed routing convoys farther north.[30] Doing so allowed Allied ships to avoid contact with the German surface ships based in northern Norway.

Because of the ice conditions in 1942, Allied ships had to traverse the 260 nm distance between longitudes 20 degrees E and 35 degrees E while sailing only 220–40 nm from the Norwegian coast. These conditions prevailed through the end of June.[31] In March and April 1942 the ice limits were farther south than at any other time of the year. This forced the convoys to northern Russia to pass south of Bear Island, and thus within about 250 miles of the Norwegian coast.[32] After April, the sea area gradually enlarged because the ice boundary moved north and east. Thereafter, it was more difficult for German surface ships to attack Allied convoys. In August, pack ice ran from Scoresby Strait off Greenland northward, then from Bell Strait (in western Spitsbergen) south of South Cape and Hope Island, then in a northeastern direction.[33] In June 1942, the pack ice boundaries fell between the March and August lines.[34]

ALLIED OPERATIONAL COMMAND STRUCTURE

The highest British naval authority was the Admiralty, led by First Lord Albert V. Alexander. (His position was the equivalent of today's Secretary of the Navy in the United States.) The Admiralty itself consisted of five sea lords plus four other high officials. The First Sea Lord and Chief of Naval Staff was Admiral Pound.

He was the highest naval official responsible for naval operations. In contrast to the Air Ministry, the Admiralty's responsibilities included operational planning and execution. The most important Admiralty divisions were Plans and Operations, Trade, and Intelligence. The work of the Plans and Operations Division was closely coordinated with the Intelligence Division.[35]

The Home Fleet was the principal operational-level command for operations in European waters. At the outbreak of war in September 1939, the Home Fleet consisted of the 2nd Battle Squadron, Battle Cruiser Squadron, aircraft carriers, cruisers (2nd, 7th, 12th, and 18th squadrons), Destroyer Command (6th, 7th, 8th, and 18th Destroyer Flotillas), submarines (2nd and 6th Submarine Flotillas), and minesweepers (1st Minesweeping Flotilla), plus the Orkneys and Shetland forces. The majority of the Home Fleet's forces were based at Scapa Flow in the Orkneys and Portland, England. Other bases were at Rosyth and Dundee in Scotland and Blyth and the Humber in England.[36]

During the war, the composition of the Home Fleet underwent significant changes because many of its heavy units were assigned to other major commands. The CINC of the Home Fleet after November 1940 was Admiral Tovey. On 26 March 1942, the U.S. Navy formed Task Force (TF) 39, initially led by Rear Admiral John W. Wilcox, to reinforce the Home Fleet. On 26 March, TF 39, composed of the battleship *Washington* (BB 56), carrier *Wasp* (CV 7), and heavy cruisers *Wichita* (CA 45) and *Tuscaloosa* (CA 37), plus eight destroyers, sailed from Portland, Maine, for Scapa Flow. One day later Admiral Wilcox was washed away and disappeared in a heavy sea. He was replaced by Rear Admiral Robert C. Giffen.[37]

The Home Fleet's geographic area of responsibility was never defined. Yet it clearly encompassed the northern part of the North Sea and the waters north of the Shetlands/Faeroes/Iceland/Greenland line. The southern part of the North Sea and the English Channel constituted separate commands deploying light forces. The squarish ocean area from the northernmost tip of Scotland and southwestern tip of England extending to longitude 30 degrees W was the responsibility of the Western Approaches Command in Liverpool (moved from Plymouth on 7 February 1941). On 17 February 1942, Admiral Sir Percy Noble was appointed CINC of Western Approaches Command. Its main responsibility was the protection of convoys between North American and British ports.

Initially, the main mission of the Home Fleet was to prevent German naval forces from breaking out of the North Sea and operating in the Atlantic. After the summer of 1941, its focus shifted to Norwegian waters and the Barents Sea. Overall responsibility for convoys to northern Russia rested with Admiral Tovey, CINC of the Home Fleet, but Western Approaches Command provided the ships necessary for the close, direct screening of convoys.

CONVOYS TO NORTHERN RUSSIA

The first convoy to northern Russia (code-named DERVISH) departed from Hvalfjord, Iceland, on 21 August 1941—only two months after the Nazi invasion of the Soviet Union. This convoy consisted of only six merchant ships, and all reached the Soviet port of Arkhangelsk in the White Sea after a ten-day voyage.[38] On 13 September 1941, a decision was made to give a serial number to each convoy heading to or from northern Russia.[39] The first of the eastbound PQ convoys (named after convoy planning officer Commander Philip Quellyn Roberts) left Hvalfjord on 28 September 1941.[40] The first westbound convoy, QP1, left Arkhangelsk on 28 September and arrived at Dunnet Head, northern Scotland, on 11 October.[41] Between 1941 and 1945, forty-two eastbound escorted convoys (composed of 848 ships) and thirty-six westbound escorted convoys (composed of 735 ships), plus one eastbound and one westbound unescorted convoy, sailed the Arctic route between Russia and the West.[42]

Ports of origins for the Allied convoys to the Soviet Union were on the U.S. east coast and in northern Scotland. The American ships sailed from Philadelphia and then joined one of the transatlantic convoys in Halifax or Sydney, Nova Scotia, Canada. Afterward they sailed across the northern Atlantic to a breakaway point for continuing their voyage to Iceland. The British ships were organized into convoys at Gare Loch or Loch Ewe on the western coast of Scotland. They joined American-flag ships at Hvalfjord or Reykjavík, where PQ convoys were formed.[43]

Murmansk in the Kola Inlet and Arkhangelsk in the White Sea were the principal destination ports for Allied convoys to northern Russia. Because of the influence of the Gulf Stream, the Kola Inlet is ice-free year-round; Arkhangelsk was closed to large ships for six months out of the year because of ice.[44] The port facilities in both Murmansk and Arkhangelsk were very primitive.[45]

The sea routes from Reykjavík to Murmansk and Arkhangelsk are 1,500 and 1,900 nm in length, respectively; however, the length of the convoy route to Murmansk was some two thousand nautical miles because of the need to keep as far as possible from the Luftwaffe's aircraft. Transit time for a convoy from Iceland to Murmansk was about ten days, to Arkhangelsk twelve days.[46] The merchant ships from the United States already had a long distance to traverse merely to reach their assembly points in Iceland. For example, a merchant vessel sailing out of Philadelphia had to traverse some 645 nm to Halifax or 960 nm to Sydney. Distances from Halifax or Sydney to Reykjavík are 1,940 and 1,655 nm, respectively. The PQ convoy route ran generally through the Denmark Strait (which was mined); then as far north as ice conditions allowed, while proceeding eastward; then south toward the Kola Inlet or southeastward to Arkhangelsk.[47]

Allied convoys to Russia generally varied in size between fifteen and thirty ships, although some were larger. Smaller convoys ran until early 1942, when a decision was made to increase the size of convoys bound to Russia.[48] On 26 February 1942, Admiral Tovey requested that westbound and eastbound convoys sail simultaneously so that their transits through the most dangerous areas could be synchronized. This would entail fourteen-day cycles for convoys to and from Russia.[49] A decision was made that a pair of convoys would sail starting in early March 1942, and the practice became standard thereafter.[50] In May, Admiral Tovey advocated reducing the number of convoys during the coming months because improved weather conditions would greatly facilitate operations of the enemy's reconnaissance aircraft and bombers, and because the ice boundary would not have receded northward sufficiently to avoid these attacks.[51] However, the Admiralty rejected his recommendation.

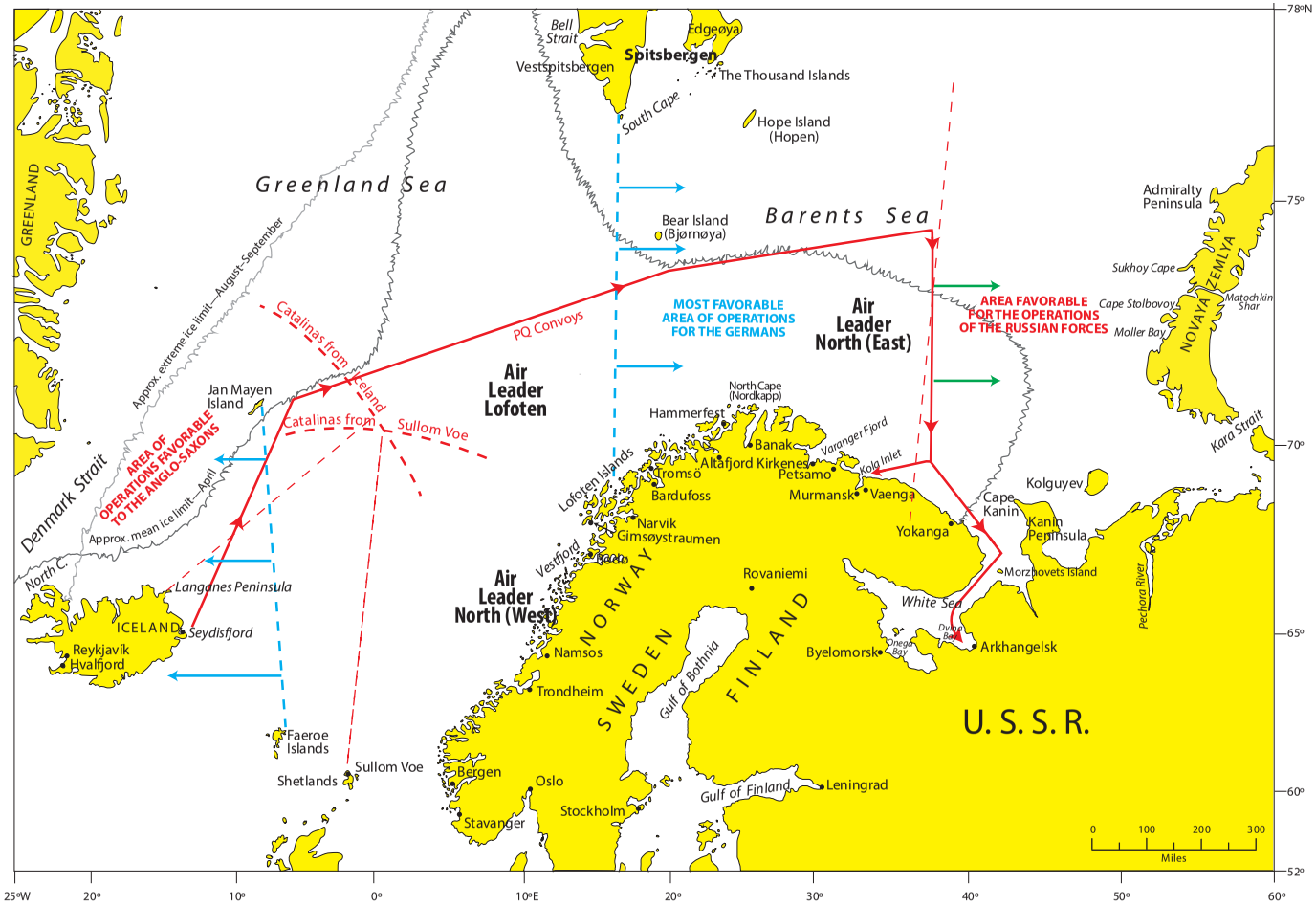
The Allied convoys were potentially subject to attack by enemy surface ships and U-boats along the entire route, and for some 1,400 miles by aircraft.[52] Both ends of the convoy route were within range of the Luftwaffe's reconnaissance aircraft. In contrast, the British reconnaissance seaplanes operated from a single base, Sullom Voe in the Shetland Islands. The Germans believed that these planes were also based on the Langanes Peninsula, Iceland (see map 2). The maneuvering area for a convoy and its covering forces was limited northward and westward by ice and southward by the enemy-occupied coast. Within that convoying area the currents were uncertain, and frequent gales could disperse a convoy, driving ships many miles from their intended route.[53]

Initially, the Allied convoys to northern Russia were weakly defended from attacks by German aircraft and U-boats. This highly unfavorable situation began to change for the better in the spring of 1942. In late April, additional destroyers, corvettes, and trawlers were transferred from Western Approaches Command to the Home Fleet, bringing the number of antisubmarine (A/S) escorts for each convoy to about ten.[54] However, the Allies' continuing shortage of destroyers combined with the difficulty in refueling them limited their ability to hunt U-boats at any significant distance from a convoy.[55] Each convoy was accompanied by at least one fleet oiler for refueling the short-legged destroyers and corvettes.

Each eastbound convoy was accompanied by two submarines to discourage enemy surface attack. Several British and the Soviet submarines patrolled the areas northwest and west off North Cape.[56]

The Allies tried repeatedly to involve the Soviet Northern Fleet further in protecting convoys. Admiral Tovey in his messages to the Admiralty "pressed for strong and continuous Russian patrol activity off the Kola Inlet, to make that area untenable by U-boats, and for short-range and long-range fighter protection."[57]

MAP 2
OPERATIONAL SITUATION, JUNE 1942
(GERMAN PERSPECTIVE)



Tovey believed that this provision of fighter cover—both long-range (two hundred miles off the Kola Inlet) and short-range (sixty miles off), during the most dangerous part of the voyage—was both crucial and within Soviet capabilities. The Soviet Northern Fleet had sufficient destroyers and smaller A/S ships to operate farther from its bases than heretofore, and Tovey felt the Soviets should take over responsibility for defense of the convoys during the White Sea segment of the passage. Also, the Soviet submarines based in Polyarny, Kola Peninsula, could be employed for scouting and intercepting the German heavy surface ships.[58]

The British requested that the Russians not only reinforce escorts at the eastern end of the voyage by providing long-range fighters or A/S air escort but also bomb enemy airfields during convoy transits to discourage surface attacks east of Bear Island.[59] Although the Soviets repeatedly promised that they would provide adequate protection to the Allied convoys, they seldom did so in practice.[60] Formally, the Soviets took responsibility for protecting Allied convoys once they crossed longitude 18 degrees E.[61] They also conducted intensive reconnaissance of the German naval and air bases in northern Norway. The submarines of the Soviet Northern Fleet patrolled off the Norwegian coast, covering the possible deployment routes of German surface forces.[62] However, the fact was that the Soviets were unable to provide adequate protection to the Allied convoys during the most dangerous phase of the transit.[63]

GERMAN OPERATIONAL COMMAND STRUCTURE

The German operational command organization in the northern theater was highly fragmented. The Germans never established a true multiservice or joint command in this theater; instead, each service controlled its own forces. Cooperation was supposed to be secured through the posting of liaison officers at the main headquarters of each of the three services. The highest command echelon controlling army troops in Norway and Finland was High Army Command Norway, led by General Nikolaus von Falkenhorst, from Command Post Finland in Rovaniemi, Finland. It was created from Group XXI in December 1941 and disbanded in December 1944. Army Norway was directly subordinate to the High Command of the (German) Army (Oberkommando des Heeres, or OKH).

Kriegsmarine CINC Admiral Raeder and Luftwaffe CINC Reichsmarschal Göring had operational command over all their respective forces. Raeder headed the High Command of the Navy (Oberkommando der Marine—OKM) (established 11 January 1936). The Naval Warfare Directorate, formed on 1 April 1937, had responsibility for the conduct of naval warfare as a whole. The Operations Directorate (1./SKL) was the most important of the six SKL staff directorates in 1942. The OKM also had a permanent representative at Hitler's headquarters (see

FIGURE 1
GERMAN NAVAL ORGANIZATION IN NORWAY, JUNE 1942

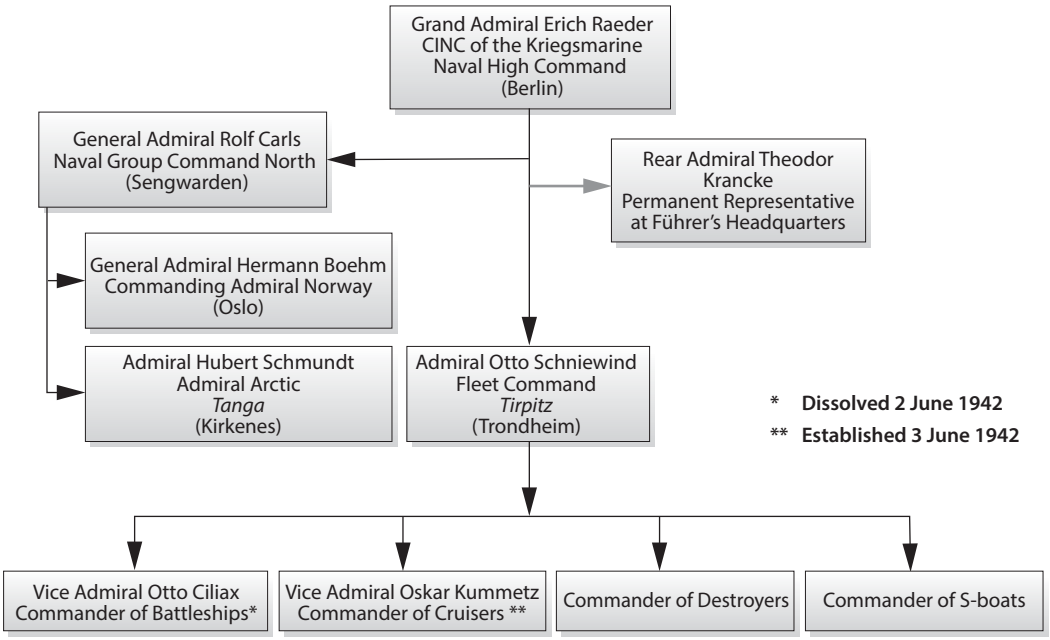


figure 1). Contact with the Luftwaffe was maintained through a liaison officer to the Luftwaffe CINC.[64]

By the end of 1941, the highest operational-level headquarters of the Kriegsmarine were Fleet Command (Flottenkommando) and four naval group commands (Marinegruppenkommandos—MGKs): North, East, West, and South. Other major commands were Naval Station Baltic (Marinestation Ostsee), Naval Station North Sea (Marinestation Nordsee), and German Naval Command Italy (Deutsches Marinekommando Italien). Naval Group Command North (MGK Nord) was led (21 September 1940–2 March 1943) by General Admiral Rolf Carls (1885–1945). On 10 August 1940 it had been renamed from Naval Group Command East (MGK Ost) and moved from Kiel to Sengwarden, near Wilhelmshaven.[65] At the same time, Naval Group Command West (MGK West) was moved from Sengwarden to Paris.[66] Naval Group Command North was responsible for all Kriegsmarine activities in the German Bight, the northern part of the North Sea, the northern Atlantic Ocean (north of Scotland), and the Arctic.[67]

In 1942, the major part of German fleet forces was deployed in northern Norway. The fleet commander (June 1941–July 1944) was Admiral Otto Schniewind, flying his flag in *Tirpitz*. Directly subordinate to the fleet commander were the positions of commander of battleships (Befehlshaber der Schlachtschiffe—B.d.S.) (June 1941–May 1942) and the respective leaders of destroyers (Führer der

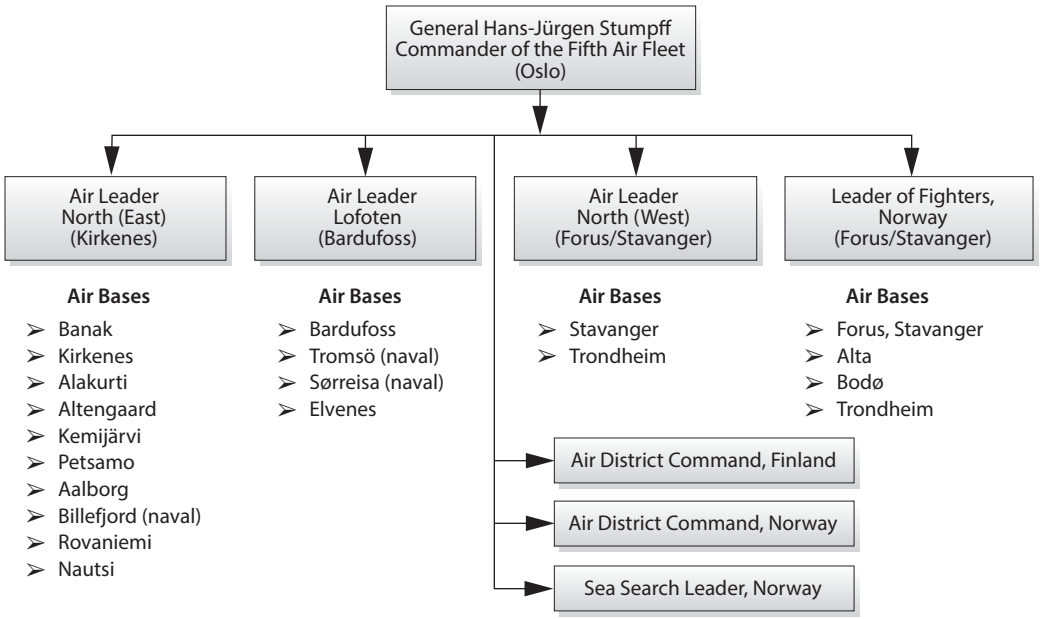
Zerstörer) (August 1940–May 1945), T(orpedo)-boats (Führer der Torpedoboote) (August 1940–April 1942), and U-boats (Befehlshaber der Unterseeboote) (November 1939–July 1942). The post of leader of the U-boats (Führer der U-Boote) had been renamed commander of U-boats (Befehlshaber der U-Boote) on 17 October 1939; the latter German term signified a command's enhanced importance. In the operational chain of command, Commander of U-boats Admiral Karl Dönitz became directly subordinate to the OKM; administratively, U-boats remained subordinate to the fleet command.[68] The commander of battleships was renamed commander of the cruisers (Befehlshaber der Kreuzer, or B.d.K.) in June 1942, and the leader of the torpedo boats became leader of the S-boats (Führer der Schnellboote) in April 1942.

Directly subordinate to Naval Group Command North was the Commanding Admiral Norway (Kommandierende Admiral Norwegen), led by General Admiral Hermann Boehm. The entire Norwegian coast was divided into three geographically based commands: Admiral Norwegian Polar Coast (Tromsö), Admiral Norwegian Northern Coast (Trondheim), and Admiral Norwegian Western Coast (Bergen), plus Commandant of Naval Defenses Oslofjord (Horten). In accordance with Hitler's Instruction Nr. 37, the operational staff of Admiral Arctic was established on 16 October 1941, at which point Admiral Polar Coast became subordinate to Admiral Arctic.[69] Admiral Hubert Schmundt, with headquarters in Kirkenes, was the first Admiral Arctic (October 1941–August 1942). He, in turn, was subordinate to Commanding Admiral Norway. However, at the beginning of 1942 Commanding Admiral Norway proposed that Admiral Arctic should be directly subordinate to Naval Group Command North. The aim was to unify conduct of the naval war in Arctic waters. Another reason for this change in command relationships was that Commanding Admiral Norway lacked the technical means to conduct communications.[70]

After April 1942, Commanding Admiral Norway became responsible for the security of sea traffic around North Cape to the frontline forces in Finland, and for supplying Mountain Corps Norway in Finnmark.[71] Admiral Arctic was also directed to attack enemy maritime traffic, protect German coastal shipping, and conduct defensive mining of coastal waters and ports. A special naval commander was to be appointed to accomplish these tasks.[72] However, in practice it was Admiral Carls who controlled all operations in the Arctic—Admiral Schmundt essentially only transmitted his orders to subordinate commanders.[73]

On 18 June 1942, the SKL directed that Admiral Arctic be responsible for the conduct of U-boat warfare against enemy traffic and escorts in the area east of the Denmark Strait and Jan Mayen Island. The weight of the main effort *(Schwerpunkt)* was to be the employment of U-boats against PQ convoys; however,

FIGURE 2
ORGANIZATION OF THE FIFTH AIR FLEET, JUNE 1042



Source: Mueller-Meinhard, p. 519.

should an Allied landing occur, the main effort would shift to enemy transports and escorts.[74]

After the invasion of the Soviet Union in June 1941, the 5th Air Fleet (Luftflotte 5), led by General Hans-Jürgen Stumpff (1889–1968), was the highest Luftwaffe command echelon in Norway and Finland. Until the end of 1941, the Air Leader North (West) in Stavanger was the principal subordinate commander of the 5th Air Fleet (see map 2). His forces were based in the area of Stavanger and Trondheim.[75] In Hitler's Instruction Nr. 37 of October 1941, the führer directed that a major part of the 5th Air Fleet be transferred from Finland back to Norway. Headquarters were moved to Oslo, while an operational command post was established at Kemi, near Kirkenes. The Air Leader North (West) was in Forus/Stavanger, Air Leader Lofoten in Bardufoss, and Air Leader North (East) in Kirkenes (see figure 2).[76] After June 1941, all fighter aircraft were subordinate to the Fighter Air Leader, Norway (Jagdfliegerführer Norwegen), with his staff at Forus, near Stavanger. The Air District Command, Norway (Luftgau-Kommando Norwegen) in Oslo had responsibility for all air bases and ground-based Luftwaffe units and installations.

The 5th Air Fleet's operational area *(Operationsgebiet)* encompassed the Skagerrak (between Norway and Denmark); the northern part of the North Sea and northern Scotland; the northern Atlantic; the Arctic Ocean; and the

Murmansk front.[77] Its main missions were defending against any enemy amphibious landing; reconnoitering coastal waters; and attacking Arctic convoys, in cooperation with the Kriegsmarine.[78] Specifically, the 5th Air Fleet was responsible for cooperating with naval forces, providing security for German sea supplies, conducting offensive mining, and defending against enemy raids. In cooperating with the U-boats, the Luftwaffe's main tasks were to provide reconnaissance of the operating area of the U-boats engaging enemy convoys; combat any enemy fighter aircraft posing a threat to the U-boats; and conduct joint attacks with the U-boats on the PQ convoys. In cooperating with naval surface forces, the Luftwaffe's main missions were reconnoitering the operating area and attacking sea targets within the framework of an operation.[79]

In practice, cooperation between the Luftwaffe and the Kriegsmarine in the northern area was unsatisfactory. The major reason was that both practiced rather rigid, centralized command and control. For example, if Admiral Arctic had a need for air reconnaissance, he had to send a request to Naval Group Command North in Sengwarden; from there the request was transmitted to the 5th Air Fleet in Oslo/Kemi. This resulted in a long delay in obtaining permission. If granted, the latter headquarters then gave orders to the respective air commanders.[80] Other factors that made radio communications difficult were a lack of interoperability (the Kriegsmarine and the Luftwaffe used different radio transmitters) and the difficult, mountainous terrain of Norway. All radio communications ran via Naval Group Command North in Sengwarden; employment of the Luftwaffe was directed from Oslo; but radio communications between Oslo and Sengwarden were inadequate.[81] Combined with the unsatisfactory technical aspect of communications, this made it very difficult to organize cooperation between the Luftwaffe and the Kriegsmarine. After Raeder complained about the problem, Hitler issued orders to reinforce Luftwaffe units in Norway and to improve cooperation with the Kriegsmarine. The leaders of the Luftwaffe and the Kriegsmarine discussed the problem, and decided to exchange liaison officers between the 5th Air Fleet and Admiral Arctic.[82]

ALLIED VS. GERMAN NAVAL INTELLIGENCE

For both the Allies and the Germans, accurate and timely intelligence about the enemy's order of battle (OOB), plans, intentions, and movements was essential to a successful outcome of the war in Arctic waters. The British Admiralty's Naval Intelligence Division (NID) was responsible for preparing at least daily, and often hourly, reports regarding enemy forces anywhere in the world. The Operational Intelligence Centre (OIC), created in February 1939, was the most important of NID's eight sections. It was headed by a navy captain.[83] As part of the Joint

Intelligence Committee, the Director of Naval Intelligence (DNI) worked closely with his counterparts in the War Office and the Air Ministry.[84]

The British relied on several sources of intelligence to deduce enemy intentions, plans, and movements. These included direction finding, photographic reconnaissance, captured enemy documents, prisoners of war, and signals intelligence, the last being the most important. The main source of decrypted enemy messages was the cryptanalysts at the Government Code and Cypher School at Bletchley Park, Buckinghamshire, England.[85]

Normally, German ships did not use radio communications while at anchor in Trondheim; however, they did use radio transmissions between ships anchored at Vestfjord and Altafjord. And shore commands communicated by radio with the heavy ships when they were at sea—sending a steady stream of messages, in fact. So the absence of such signals was a good indicator that the ships were still in port or in some other fjord.[86]

Air reconnaissance of the German naval bases/anchorages and airfields in northern Norway was extremely difficult because of the long distances involved and the often-appalling weather. The British deployed submarines in the area between North Cape and Bear Island. The Allies' network of Norwegian agents, which would prove so valuable later in the war, had not yet been fully established.[87] However, the British were lucky in having some excellent Swedish sources of information on German forces in Norway. The British naval attaché in Stockholm, Captain Henry Denham, established good relations with the Swedish secret service, especially Major Törnberg (assistant to Major Carl Petersén, head of C-Bureau, a unit for secret intelligence collection). The Swedes had a good source of intelligence because the Germans' telegraph and teleprinter lines to their naval, army, and Luftwaffe forces in Norway passed through Swedish territory. The Swedes were successful in tapping those lines and in breaking a number of German ciphers. Denham was often provided with the results of the Swedish cryptanalysts' work. To avoid suspicion being cast on the Swedish secret service, Denham met his contacts in a park or some other public place. All the information passed over had to be memorized until Denham could get back to his embassy and send a signal to the DNI in London. Among other things, these Swedish sources gave the first positive clue about the movements of the battleship *Bismarck* in May 1941.[88]

For the British, the single most critical factor in their ultimate success in the Battle of the Atlantic was their ability to read the German navy's radio messages. Yet while many of these messages were read, not all were; and the codes were generally difficult to crack.[89] But the British did break the German naval cipher HYDRA, which was used by not only the patrol vessels and minesweepers but

also the U-boats based in Norway, as well as the heavy ships. (The exception was special operations, when the NEPTUNE cipher was used; the British code breakers at Bletchley Park partially penetrated it.) Major changes in the German cipher settings occurred every forty-eight hours, and minor ones every twenty-four hours. Bletchley Park largely mastered the daily changes of cipher settings; it was the major changes that caused a problem. Once a major code change was broken, the lesser ones were usually cracked quickly.[90] However, delays did occur, leaving gaps varying in length from four to forty-eight hours.[91] Hence, there were cases when the British were blind or not current at a critical moment. With regard to messages sent by landlines, the British were unable to learn anything about them unless they received the information from Stockholm. They were also unaware of German written instructions. In short, even the best intelligence sources could not be relied on to give a complete and continuous picture of what *was happening,* let alone what was *going to happen,* on the other side of the North Sea.[92]

Further, on 1 February 1942, the Germans directed all U-boat cipher operators to abandon the use of HYDRA codes to tighten security. They introduced a new version of the Enigma coding machine, the Triton M4, that used four instead of three rotors. Codes generated by the Triton M4 (called SHARK by the British) were unreadable using then-existing methods of decoding.[93] It was not until late 1942 that Bletchley Park decoders were able to read these messages.[94]

The primary source of intelligence for the Kriegsmarine was the Naval Intelligence Service (Marinenachrichtendienst—MND). It was established in June 1941; the Naval Intelligence Inspectorate (Marinenachrichten Inspektion) was dissolved.[95] The Naval Communications Service (Amtsgruppe Marinenachrichtendienst—4./SKL) was one of MND's most important office groups. Its Division of Radio Intelligence (Funkaufklärung) (4./SKL/III), or B-Dienst (Beobachtung-Dienst—Observation Service), was primarily responsible for monitoring, deciphering, and evaluating enemy radio communications.[96] B-Dienst was highly regarded by the rest of the Kriegsmarine for its professionalism and the high quality of its analysis. Admiral Raeder highly praised its work.[97] B-Dienst and German Military Intelligence (the Abwehr) had a loose administrative relationship because two of the Abwehr's departments dealt with "naval matters" (Group IV: Radio Intelligence and Group V: Naval Espionage).[98]

B-Dienst played a pivotal role in the first part of the Battle of the Atlantic.[99] Generally, B-Dienst had a reasonably clear and current picture of the convoy situation. It provided essential information to U-boats for their attacks on Allied convoys.[100] It achieved a great success in March 1942 when it cracked the Allied convoy code. This enabled Dönitz to receive decoded signals within twenty-four hours of their transmission. From June through November 1942, almost all orders to U-boats were based on German knowledge of decoded signals.[101]

The Germans had relatively good knowledge of the Allies' naval OOB in northern Scotland and Iceland. Most of the information came from radio intercepts obtained by B-Dienst, photographic reconnaissance by Luftwaffe aircraft, and reports from U-boats.

Initially, the Germans did not have precise information on Allied efforts to supply the Soviet Union via the Arctic route. Yet already in September 1941, the German Supreme Command of the Wehrmacht and the OKM noticed the increased importance of the convoys to northern Russia. They believed at first that supplies brought in by these convoys were solely intended for the support of Soviet forces fighting on the Murmansk front. They also thought that the Soviets, with the help of the British and Canadians, would try to capture vitally important nickel mines at Petsamo. This estimate of the situation was expressed in Hitler's Instruction Nr. 36 for winter operations in Norway, issued on 22 September 1941.[102]

However, air reconnaissance and information obtained from agents indicated that the enemy convoys were bringing in supplies to be used on the entire eastern front. The Germans also deduced that Murmansk and Arkhangelsk were the principal destination ports for the enemy convoys. German radio intercepts revealed that the enemy used convoys with a P-Q designation for northern Russian convoys; eastbound convoys were designated PQ, westbound QP. The Germans knew that the enemy had sent seven eastbound convoys (PQ1–PQ7) by the end of 1941. However, because of bad weather conditions in the Arctic, the Germans never learned the positions of or the nature of the screens for those convoys.[103]

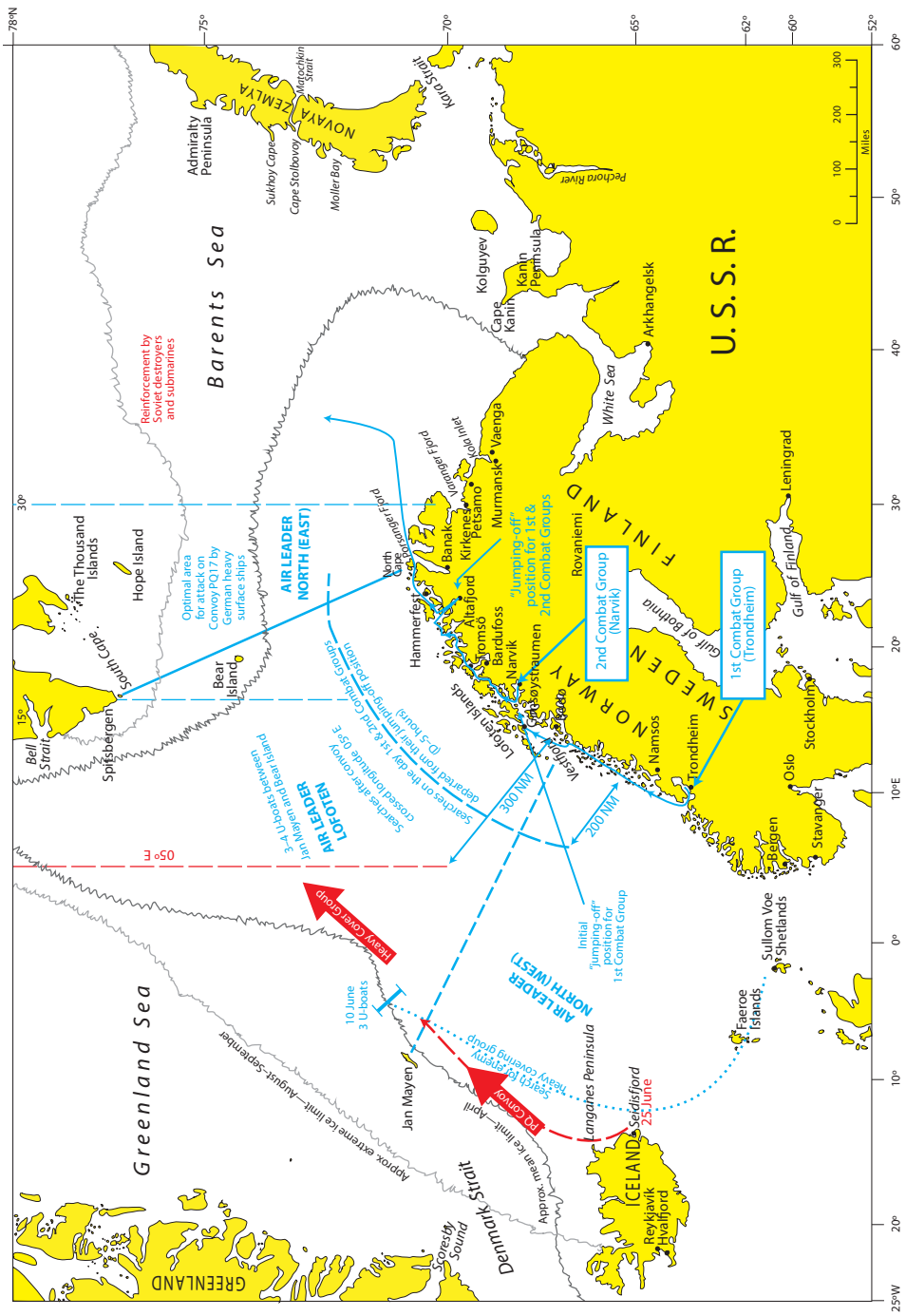
By mid-January 1942, the SKL had a clearer picture of the operational situation. It learned that the convoys originated in Scottish ports. Yet it erroneously believed that partial convoys from the United States stopped at Seydisfjord, Iceland, and from there sailed three to four times per month to northern Russia (see map 3). The screen was composed of cruisers and destroyers, with sometimes a single aircraft carrier.[104]

In mid-February 1942, the Germans learned that the route for the PQ convoys ran from Iceland to the southern tip of Bear Island, then eastward to longitude 38°40′ E, then southward to latitude 70 degrees N, where the routes to Murmansk and Arkhangelsk separated. The return QP convoys left at the same time as the PQ convoys heading to the north Russian ports. The QPs were routed eastward and southward of the PQ route. Intervals between successive convoy pairs were about fifteen days.[105]

ALLIED PLANS

Allied planning for Convoys PQ17 and QP13 followed a well-established pattern. While the Admiralty and the Home Fleet were gravely concerned about the safety of convoys to northern Russia during the summer months, they had

MAP 3
OPERATIONAL IDEA FOR THE ATTACK ON CONVOY PQ17, JULY 1942
(OPERATION RÖSSELSPRUNG—KNIGHT'S MOVE)



no choice but to send them; political reasons—support of the embattled Soviet Union—trumped purely military considerations.[106] The time of sailing of the convoys could not be concealed from the Germans for more than a day or two at most. Hence, it was clear to Admirals Pound and Tovey that sooner or later a major disaster was bound to occur. This would be so especially if convoys continued to run in the summer months, when perpetual daylight prevailed. Pound believed firmly that another sortie by *Tirpitz* (the first foray, against convoys PQ12 and QP8 on 13 March 1942, had failed) was inevitable. He argued strongly to the War Cabinet that convoys should be postponed until at least the following winter. However, he was overruled because of strong pressure from Churchill and Roosevelt. Preparations for Convoy PQ17 went ahead.[107]

Admiral Tovey received information in June 1942 that the enemy intended to bring out his main force to attack an eastbound convoy. This meant that enemy surface ships would be operating in the area between Norway and Spitsbergen—where British ships would be operating about a thousand miles from friendly air bases. The British destroyers also would be too short on fuel to escort any damaged ships.[108] The only hope, Tovey argued, was to induce the Germans to use their heavy ships toward the west. This would mean that an eastbound convoy, after reaching longitude 10 degrees E, would temporarily delay its transit for twelve to eighteen hours (unless it was known that the German heavy ships were still in port, or that the weather prevented shadowing by enemy aircraft). Tovey hoped that this temporary withdrawal would tempt the German heavy ships to pursue, cause them to return to port, or force them to sail into the operating area of the British and Russian submarines.[109]

The Admiralty rejected Tovey's proposal. Yet the Admiralty's instructions issued on 27 June envisaged the possibility, under certain circumstances, of the convoy being temporarily turned back, on Admiralty orders.[110] The same document stated that the safety of the convoy against surface attack west of Bear Island "must be met by our surface forces, and to the eastward of that meridian [10 degrees E] must be met by submarines; and that the cruiser covering force was not intended to go east of Bear Island, unless the convoy was threatened by the presence of a surface force which the cruisers could fight, or in any case to go beyond 25° E."[111]

Convoy PQ17 consisted of thirty-six merchant ships (twenty-three of them American), plus three rescue ships that technically were not part of the convoy. Commodore John C. K. Dowding commanded the convoy.[112] The convoy carried 156,492 tons of weapons, equipment, and other supplies. Among weapons and equipment, 594 tanks, 4,246 motor vehicles, and 297 aircraft were on board.[113] The plan envisaged that three oilers (designated Force Q) would accompany the

convoy to refuel both the destroyers accompanying Convoys PQ17 and QP13 and those with the Cruiser Covering Force.[114]

The route for Convoy PQ17 ran from Hvalfjord around the western and northern coasts of Iceland; through the Denmark Strait; past the east coast of Jan Mayen; northeast to the vicinity of latitude 75 degrees N, longitude 19 degrees E; from there due east, passing north of Bear Island; then proceeding southeast.[115] Upon crossing the longitude of the Kola Inlet (approximately 33 degrees E), the convoy route south would split, with one track leading into Murmansk and another on to Arkhangelsk.[116] This route ran more to the north than usual because the ice boundary had moved farther away from Bear Island. This increased the distance from the enemy air bases in northern Norway.[117] It also made Convoy PQ17's route longer than usual.[118]

Defenses for the PQ17/QP13 convoys were similar to those for the PQ16/QP12 convoys. They consisted of a direct A/S screen and a "long-range escort force" sailing with the convoy, a Cruiser Covering Force for close cover, and a Battle Fleet for distant cover and support. The direct A/S screen and the long-range escort force for Convoy PQ17 were under Commander John E. Broome, RN. The direct A/S screen consisted of four corvettes, two auxiliary antiaircraft (AA) ships, four minesweepers, and four armed trawlers. The long-range escort consisted of six destroyers and two submarines (see sidebar, "Allied Order of Battle").[119]

The Cruiser Covering Force was designated Cruiser Squadron 1 (CS 1). It consisted of two British *(London, Norfolk)* and two U.S. cruisers *(Tuscaloosa, Wichita)* under Rear Admiral Louis K. Hamilton, plus one British *(Somali)* and two U.S. destroyers *(Wainwright, Rowan)*. CS 1, in turn, was organized into three divisions: 1st Division *(London, Norfolk),* 2nd Division *(Tuscaloosa, Wichita),* and 3rd Division *(Somali, Wainwright, Rowan)*.[120] This force would provide cover as far as Bear Island.[121] The Battle Fleet, under Admiral Tovey, was composed of the British battleship *Duke of York,* the U.S. battleship *Washington,* the British carrier *Victorious,* the British cruisers *Cumberland* and *Nigeria,* and twelve destroyers.[122]

Tovey's plan was for the Battle Fleet to reach latitude 65°56′ N and longitude 10°30′ E at 0730 on 1 July. After four destroyers from Seydisfjord joined the force, the remaining fleet destroyers would be detached to Seydisfjord and the Battle Force would proceed to provide distant cover for Convoy PQ17. CINC Rosyth (Scotland) was asked to arrange A/S escort and long-range fighter escort for the Battle Force as far northward as possible.[123]

Initially, eight British and one Free French submarines were assigned to and deployed in patrolling areas between North Cape and Bear Island.[124] British

Continued on page 106

ALLIED ORDER OF BATTLE

CONVOY PQ17

(Commodore John C. K. Dowding)

Total: 39 Ships

36 merchant ships (23 U.S., 8 U.K., 2 Soviet, 2 Panamanian, 1 Dutch); 3 rescue ships (U.K.)

MERCHANT SHIPS

Alcoa Ranger (U.S.) (sunk)
Azerbaijan (Soviet)
Bellingham (U.S.)
Benjamin Harrison (U.S.)
Bolton Castle (U.K.) (sunk)
Carlton (U.S.) (sunk)
Christopher Newport (U.S.) (sunk)
Daniel Morgan (U.S.) (sunk)
Donbass (Soviet)
Earlston (U.K.) (sunk)
El Capitan (Panamanian) (sunk)
Empire Byron (U.K.) (sunk)
Empire Tide (U.K.)
Exford (U.S.) (returned to Reykjavík)
Fairfield City (U.S.) (sunk)
Hartlebury (U.K.) (sunk)
Honomu (U.S.) (sunk)
Hoosier (U.S.) (sunk)
Ironclad (U.S.)
John Witherspoon (U.S.) (sunk)
Navarino (U.K.) (sunk)
Ocean Freedom (U.K.)
Olopana (U.S.) (sunk)
Pan Atlantic (U.S.) (sunk)
Pan Kraft (U.S.) (sunk)
Paulus Potter (Dutch) (sunk)
Peter Kerr (U.S.) (sunk)
Richard Bland (U.S.) (returned to Reykjavík)
River Afton (U.K.) (sunk)
Samuel Chase (U.S.)
Silver Sword (U.S.)
Troubador (Panamanian)
Washington (U.S.) (sunk)
West Gotomska (U.S.)
William Hooper (U.S.) (sunk)
Winston-Salem (U.S.)

RESCUE SHIPS (U.K.)

Rathlin
Zaafaran (sunk)
Zamalek

CONVOY SCREEN

(Commander John E. Broome, RN, in *Keppel*)

LONG-RANGE ESCORTS

6 destroyers: *Fury, Keppel, Leamington, Ledbury, Offa, Wilton*
2 submarines: *P614, P615*

A/S SCREEN

4 corvettes: *Dianella, Lotus, Poppy; La Malouine* (Free French)
4 A/S trawlers: *Ayrshire, Lord Austin, Lord Middleton, Northern Gem*

2 auxiliary AA vessels: *Palomares, Pozarica*
4 minesweepers: *Bramble, Britomart, Leda, Salamander*

SUPPLY GROUP—FORCE Q
2 fleet oilers: *Grey Ranger* (damaged by ice on 28 June; replaced by *Aldersdale*), *Aldersdale* (sunk)
1 fleet oiler: *Gray* (for QP13)
1 destroyer: *Douglas*

CRUISER COVERING FORCE—CRUISER SQUADRON 1 (CS 1)
(Rear Admiral Louis K. Hamilton, RN, in *London*)
4 heavy cruisers
2 British: *London, Norfolk*
2 U.S.: *Tuscaloosa* (CA 37), *Wichita* (CA 45)
3 destroyers
1 British: *Somali*
2 U.S.: *Rowan* (DD 405), *Wainwright* (DD 419)

BATTLE FLEET
(Admiral Sir John Tovey, CINC Home Fleet, in *Duke of York*)
2 battleships
1 British: *Duke of York*
1 U.S.: *Washington* (BB 56) (Rear Admiral R. C. Giffen—TF 39)
1 aircraft carrier: *Victorious* (Vice Admiral Sir Bruce Fraser)
1 heavy cruiser: *Cumberland*
1 light cruiser: *Nigeria*
12 destroyers
10 British: *Ashanti, Blankney, Escapade, Faulknor, Marne, Martin, Middleton, Onslaught, Onslow, Wheatland*
2 U.S.: *Mayrant* (DD 402), *Rhind* (DD 404)

SUBMARINES
8 British: *Sahib* (P212), *Sea Wolf* (47S), *Sturgeon* (73S), *Tribune* (N76), *Trident, Unrivalled* (P45), *Unshaken* (P54), *Ursula* (N59)
1 Free French: *Minerve*
5 Soviet

Sources: Naval Staff, *The Royal Navy and the Arctic Convoys,* p. 57; Dowding, "Report of Convoy from Iceland to Time of 'Scatter,' 4th July"; Commanding Officer to the Chief of Naval Operations, "War Diary U.S.S. *Washington,* for Period from July 1, 1942, to July 31, 1942," folder BB 56 Washington War Diary—with Home Fleet, box 1554, Wasatch to Washington, RG 38, Records of the Office of the Chief of Naval Operations, Records Relating to Naval Activity during World War II, NARA; Harriman (NAVCOM LONDON) to OPNAV, 2148/29TM (29 June 1942).

submarines operating north of latitude 51 degrees N were informed that the main German units might operate from near the longitude of Bear Island to the southward of their patrol lines prior to attacking the PQ and QP convoys. Ice conditions might force the convoy to pass south of Bear Island. Hence, it was of utmost importance for the submarines to maintain accurate positions, particularly with regard to their latitude.[125] Five Soviet submarines patrolled the area north of Ingøy Island.[126]

Admiral Hamilton, in his operation order issued 25 June 1942, assumed that the Germans would be sufficiently tempted by PQ17 and QP13 to send their heavy ships to sea. After all, two enemy pocket battleships and some destroyers had been moved to more northerly ports in Norway, and more aircraft had been

sent north as well. Hamilton assumed that the enemy units most likely to be encountered would be *Tirpitz, Lützow, Admiral Hipper,* and *Admiral Scheer,* plus some ten destroyers. Because of respective speeds, the most likely combinations would be *Tirpitz* with *Admiral Hipper* and *Lützow* with *Admiral Scheer*.[127]

In Hamilton's words, CS 1's primary objective was to get PQ17 to Russia. A slightly less important objective was to bring the enemy heavy ships into action with the Battle Fleet and Cruiser Covering Force. To increase the chances of the latter action occurring, PQ17 would probably be turned back after reaching the approximate longitude of 10 degrees E, and then turned eastward again. The hope was to lure the German ships farther from their bases or keep them longer at sea within Allied submarine zones.[128]

The Battle Fleet would begin covering an area in the vicinity of latitude 71 degrees N, longitude 0 degrees E by the afternoon of the sixth day (D+6) and remain until D+8, not proceeding north of latitude 72°30′ N.[129] The Cruiser Covering Force would leave Seydisfjord on the morning of D+5 to reach its covering area at latitude 73 degrees N, longitude 4 degrees E at about noon on D+6. It would remain in the area until D+8, or longer if circumstances dictated. Hamilton's intent was to avoid being drawn within close range of the enemy's shore-based aircraft or submarine concentration.[130]

In support of the operation, Allied planners envisaged the use of a dummy convoy (Operation E.S.) aimed at deceiving the Germans into believing that an attack on Norway was imminent. Hence, a group of five ships of the 1st Mining Squadron plus four colliers escorted by two cruisers *(Sirius, Curacao),* five destroyers, and some trawlers would sail out of Scapa Flow in the Orkneys.[131] This group would sortie several days prior to the departure of Convoy PQ17. It would pass west of the Shetlands and steer as far as latitude 61°30′ N and longitude 1 degree E, hoping to be seen and reported by enemy aircraft before it turned back toward Scapa Flow. In addition, this plan envisaged bombing targets in southern Norway, thereby reinforcing the perception that the dummy convoy was heading there.[132]

In June 1942, arrangements were made with the Soviets to deploy a few PBY-2 Catalina aircraft (No. 210 Squadron) to Arkhangelsk for reconnoitering the sea area between Altafjord and Convoy PQ17 on 1–3 July as the ships moved eastward; but the resulting patrol encountered nothing remarkable.[133]

Rear Admiral Geoffrey J. A. Miles, head of the British military mission to Moscow, informed the Admiralty on 16 June that the people's commissar (minister) of the navy, Admiral Nikolay Kuznetsov, promised that all Soviet resources would be concentrated on convoy protection. Kuznetsov had not been satisfied with the Soviet air effort for Convoy PQ16, but was optimistic about better results in the future. He promised to talk to the Defense Committee again to get more

long-range fighters. In addition, in the future, some bombers, instead of being used to bomb aerodromes, might be used to help long-range fighters. As many long-range Hurricane fighters as possible would be sent to the air base at Ponoy before Convoy PQ17's arrival.[134]

GERMAN PLANS

German plans for the employment of heavy surface ships against a PQ convoy were based on several "appreciations" (staff studies) prepared by various naval commands during the winter and spring of 1941–42. As was the custom in the Kriegsmarine (and in the German Wehrmacht in general), the highest command echelon, Naval Group Command North, issued an "operational instruction" *(operative Weisung),* while the subordinate commanders issued "operation orders" *(Operationbefehle)*. The Kriegsmarine and the Luftwaffe prepared their separate operational plans for the attack on Convoy PQ17. However, each plan envisaged close cooperation with the other service.

On 4 June 1942, Admiral Carls issued his operational instruction for employing the Trondheim and Narvik groups (designated the 1st and 2nd Combat Groups, respectively) against the next enemy PQ convoy. The picture, as the instruction anticipated it, was as follows. Because the Allies ran the PQ/QP convoys at fourteen-to-fifteen-day intervals, the next convoy was expected in the Jan Mayen area on 20 June. Generally, the PQ convoys sailed in column formation, with four to five merchant ships in each column. The screen usually consisted of one cruiser in the midsection and three to four destroyers some 5,500 yards ahead of the convoy. Individual destroyers and any other escorts secured the convoy's flanks. The previous enemy convoy had sailed close to the flock ice boundary. A heavy security group that included a carrier had been positioned eastward of the Jan Mayen–Faeroes area.[135]

The operational instruction of 4 June established two chains of command, one for the first phase (deployment of the combat groups to their "jumping-off" positions) and another for the second phase (deployment from the jumping-off positions to the attacking positions). In the first phase, Naval Group Command North at Sengwarden would exercise operational control of the Trondheim group, while the fleet commander in *Tirpitz* would exercise tactical control. For the Narvik group, operational control would be in the hands of Admiral Arctic on board the S-boat mother ship *Tanga,* while tactical command and control would be exercised by the commander of cruisers in *Lützow*.[136] In the second phase of the operation, overall operational control over both surface forces and U-boats would be in the hands of Commander, Naval Group Command North. Admiral Arctic would retain operational control of the S-boats in the Kola Peninsula area.

After the forces were assembled, tactical command and control would rest in the hands of the fleet commander. The headquarters of Admiral Arctic would serve as radio repeater for the U-boats. Direct control of the U-boats by the fleet commander was not envisaged.[137]

The operational instruction of 4 June specified the composition of the Trondheim and Narvik combat groups for the pending operation. The Trondheim group would consist of *Tirpitz, Admiral Hipper,* two destroyers, and three torpedo boats. The Narvik group would consist of *Lützow, Admiral Scheer,* and six destroyers. Besides the Trondheim and Narvik combat groups, Admiral Carls envisaged employing three U-boats northeast of Jan Mayen by 10 June. Their mission was to obtain early contact with the next PQ convoy and its heavy covering forces. Additional U-boat groups would be deployed in the area between Jan Mayen and Bear Islands.[138]

Operationally, RÖSSELSPRUNG was simple in concept but difficult in execution. Almost everything depended on a timely and covert joining of the two combat groups, followed by their unobserved movement toward the anticipated position of Convoy PQ17 (see map 3). Specifically, the Trondheim group would move to its jumping-off position of Gimsøystraumen in Vestfjord; at the same time, the Narvik group, directed by Commanding Admiral Arctic, would move to its jumping-off position at the northern exit of Altafjord, in the skerries (rocky islets) of Sørøya. Both groups were to be ready to sortie within twenty-four hours after leaving their bases for their jumping-off positions. Destroyers and torpedo boats would be fully refueled. After the joining of the two combat groups, the torpedo boats would be refueled at Altafjord and remain there in a three-hour ready-for-sortie status. The destroyers' short radius of action imposed limits on their speed during the operation.[139] The danger of torpedoes was posed by not only the enemy surface forces and aircraft but also submarines; the latter had been used to screen the previous PQ convoy. On a signal from Commander, Naval Group Command North, both groups would sortie from their respective jumping-off positions so as to arrive at a meeting point determined by Commander, Naval Group Command North.[140] Breaking off the action, if necessary, either would be ordered by Commander, Naval Group Command North or would result from an independent decision of the fleet commander.[141]

The situation would require massing German forces rapidly and keeping the duration of the operation short. The primary mission was the quick destruction of the enemy's merchant ships. However, the heavy surface ships could merely neutralize the enemy cargo ships; their actual sinking should be left to the U-boats and Luftwaffe. Among the enemy ships, sinking the tankers would be especially important. It also would be desirable to capture several enemy ships.

Attacking the convoy, not the enemy heavy covering group, was the primary mission of *Tirpitz* and *Admiral Hipper.*[142]

The enemy convoy would be detected by establishing U-boat patrolling lines. After the U-boats detected the PQ convoy, the Luftwaffe would be responsible for maintaining continuous contact. The Luftwaffe would also search for the enemy heavy group in the area of the Shetlands–Faeroes–Iceland–Jan Mayen line. If the Allied heavy covering group was not detected, it would be critically important to reconnoiter the sea area some 250 nm around the enemy convoy. The Luftwaffe was also tasked with reconnoitering the areas of Reykjavík, Scapa Flow, and the Firths of Forth and Moray in Scotland.[143]

On the day the combat groups sortied from Trondheim and Narvik, the Luftwaffe would reconnoiter the quadrant of offshore waters up to two hundred nautical miles from the coast running northeastward from latitude 62 degrees N to the longitude of North Cape. On the day of departure from the jumping-off positions, the Luftwaffe would reconnoiter the truncated strip of waters two hundred nautical miles offshore from the latitude of the southern tip of Lofoten to the longitude of North Cape.[144]

In accordance with the führer's instruction of 14 March 1942, Naval Group Command North requested that the 5th Air Fleet assign three squadrons of Focke-Wolfe (FW) 200 Condor long-range reconnaissance aircraft, four squadrons of Blohm & Voss (BV) 138s, and several Kettes (three-plane "chains") of bombers and Junkers (Ju) 88 fighter-bombers for air reconnaissance.[145] However, the 5th Air Fleet informed Naval Group Command North on 19 June that its request could not be fulfilled. In the 5th Air Fleet's view, the attack on Convoy PQ16 in late May 1942 had clearly showed that the Luftwaffe itself was capable of inflicting heavy losses on enemy convoys (aircraft had sunk seven ships, U-boats only one), but that the prerequisite for doing so was not to weaken the 5th Air Fleet's already inadequate forces by assigning them other tasks.[146]

On 14 June, Admiral Schniewind, the fleet commander, issued a six-and-one-half-page operation order entitled "Employment of Fleet Forces in the Northern Area against a PQ Convoy." The mission was simple: an "attack on Convoy PQ17."[147] In keeping with the overall operational instruction, Schniewind's operation order divided fleet forces into three elements: the Trondheim group, the Narvik group, and the U-boats (see sidebar, "German Order of Battle"). The Trondheim group consisted of *Tirpitz, Admiral Hipper* (with the fleet commander embarked), and five destroyers (in contrast to the two destroyers envisaged in Carls's operational instruction). The Narvik group had *Lützow, Admiral Scheer,* and six destroyers. Three U-boats were stationed northeast of Iceland beginning on 10 June. Other available U-boats, "probably three to four," would be in the

GERMAN ORDER OF BATTLE

(F = flagship)

1ST COMBAT GROUP (I KAMPFGRUPPE) (TRONDHEIM)
1 battleship: *Tirpitz* (F)
1 heavy cruiser: *Admiral Hipper*
5 destroyers:
5th Destroyer Flotilla: Z-14 (F) *Friedrich Ihn,* Z-4 *Richard Beitzen*
6th Destroyer Flotilla: Z-20 (F) *Karl Galster,* Z-10 *Hans Lody,* Z-6 *Theodor Riedel*
2 torpedo boats: *T-7, T-15*

2ND COMBAT GROUP (II KAMPFGRUPPE) (NARVIK)
1 pocket battleship: *Lützow*
1 heavy cruiser: *Admiral Scheer*

8TH DESTROYER FLOTILLA
5 destroyers: *Z-28* (F), *Z-24, Z-27, Z-29, Z-30*
1 oiler: *Dithmarschen*
9 U-boats: *U-88, U-251, U-255, U-334, U-355, U-376, U-456, U-457, U-703*

5TH AIR FLEET, LUFTWAFFE
103 Ju 88 bombers
42 He 111 torpedo bombers
15 He 115 torpedo bombers (on floats)
30 Ju 87 dive-bombers
74 reconnaissance aircraft (including FW 200 Condors and BV 138s)

Sources: Flottenchef/B.d.S., "Operationsbefehl. Einsatz der Flottenstreitkraefte im Nordraum gegen einen PQ-Geleitzug," p. 6; translation of the final report on operation (Attack on PQ17) submitted by Admiral Carls (Gruppe Nord) on the 12.7.1942 "Final Report on PQ17," p. 234; Admiral Norway, B. Nr. Gkdos. 295 AI Chefs, 8 January 1942, "Die militaerische Lage Norwegen," p. 30; Irving, *The Destruction of Convoy PQ.17*, p. 40.

attacking position between Jan Mayen and Bear Islands. Any other U-boats available later would be stationed off Bear Island. At the time the operation order was issued, there were only two destroyers in Trondheim *(Ihn* and *Lody);* four other destroyers were to be transferred from Germany to Norway within the next few days. There were also two or three torpedo boats in Trondheim to serve as escorts for the Trondheim group.[148] In the skerries area of Vestfjord and in other coastal waters, the Germans would deploy minesweepers and submarine chasers. The U-boats would follow a route through Andfjord. One former fishing steamer *(Schiff 31)* would be employed to escort the U-boats.[149]

Upon issuance of a coded signal from Naval Group Command North, the fleet forces would sail out to their jumping-off points: 1st Combat Group from Trondheim to Gimsøystraumen-Vestfjord; 2nd Combat Group from Narvik to the northern entrance of Altafjord (the area of the skerries off Sørøya). Each group was to be at its jumping-off position and combat-ready within twenty-four hours after leaving its home base.[150] About five hours prior to the sortie of the combat groups, Air Leader Lofoten and Air Leader North (East) would conduct reconnaissance in the quadrant encompassed by latitude 68 degrees N and longitude

25 degrees E, up to two hundred nautical miles off the coast. Within the effective range of the Luftwaffe's fighter aircraft, close air support would be provided during all phases of the operation.[151]

Admiral Schniewind reiterated that the operational situation would require quick massing and concentrated employment of forces, leading to quick destruction of the enemy. The primary objective was destruction of the enemy's merchant ships; the convoy's screening ships were to be attacked only if they threatened the accomplishment of the operational objective. The main objective would be accomplished faster and more effectively if the U-boats and the Luftwaffe provided reliable reconnaissance. The most favorable conditions for the attack would be in the sea area east of Bear Island, between longitudes 20 degrees and 30 degrees E.[152]

In his intent *(Absicht),* Admiral Schniewind directed that suppression of the strongest enemy force would be the responsibility of the 1st Combat Group. As soon as Convoy PQ17 was detected and located, the combat groups would take up their stations. Yet this should be carried out as late as possible, so as to reduce the time available for the enemy to react.[153] The enemy should be attacked on the bow sectors and from the east; the enemy was to be encircled only when his combat power was broken up.[154] If the enemy's close screen consisted of no more than two cruisers, the attack could be conducted from two directions from the outset; this would result in quicker destruction of the convoy.[155]

Schniewind stressed that an engagement with superior enemy forces should be avoided. The operation should be executed quickly so as to be completed before an enemy force composed of battleships and carriers, and presumably located in the Faeroes–Iceland area, would have any opportunity to intervene. The operation could be canceled by the fleet commander or by order of Naval Group Command North.[156] If enemy heavy forces were encountered during the attack on the convoy, the action should continue only as long as the conditions for success were favorable.[157]

On 2 June, Admiral Schmundt (Admiral Arctic) issued his operation order for redeployment of the pocket battleship group from Narvik to Altafjord. In addition to *Lützow, Admiral Scheer,* and the six destroyers, the Narvik combat group included the 6th S-boat Flotilla (seven S-boats) plus one supply ship.[158] Close air support of the Narvik group through its arrival in Altafjord would be provided by Luftwaffe fighters based in Bardufoss and Altengaard (near Altafjord). Air reconnaissance would be aimed primarily at detecting enemy carriers in the sea quadrant between latitude 67 degrees N and longitude 26 degrees E, up to two hundred nautical miles off the Norwegian coast. Higher-density reconnaissance would be conducted between latitudes 69 degrees and 79 degrees N and

longitudes 14 degrees and 19 degrees E. Air reconnaissance would be conducted during the entire time of the redeployment of the Narvik group.[159]

On 11 June, Admiral Schmundt directed three U-boats, organized into the *Eisteufel* ("Ice Devil") group, to take up patrol positions in the Denmark Strait to watch for the first sign of PQ17. These U-boats' primary mission was detecting and then tracking the enemy convoy. Surface ships of destroyer size and larger could be attacked only when positively identified as hostile. In any uncertain situation, such as thick weather, all attacks on enemy warships were prohibited. The German ships were also directed not to attack enemy submarines, but otherwise "to act as though submarines they meet are hostile."[160]

The 5th Air Fleet issued an operational order for its forces on 14 June. In general, the Luftwaffe was responsible for air reconnaissance and the close support of naval forces. The subordinate commanders were directed to use all their available forces in attacking the PQ convoy.[161] Upon executing the order for Operation RÖSSELSPRUNG, Luftwaffe aircraft would be employed in a three-hundred-nautical-mile-wide strip off the Norwegian coast. Specific area responsibilities were as follows: Air Leader North (West) from latitude 62 degrees N to a line crossing from the southern tip of the Lofoten area to the southwestern tip of Jan Mayen Island; Air Leader Lofoten from a line touching the southern tip of the Lofoten area to a line connecting North Cape to the southern tip of Spitsbergen; Air Leader North (East) from the line from North Cape to the southern tip of Spitsbergen to longitude 30 degrees E.[162]

Air Leader North (West) was responsible for providing cover for the Trondheim group, while Air Leader Lofoten would provide cover for the Narvik group.[163] Fighter protection would be organized by the commander of fighters, Norway, in cooperation with the fleet commander at Trondheim, and Air Leader Lofoten in cooperation with the commander of cruisers.[164] After the PQ convoy crossed longitude 5 degrees E, Air Leader Lofoten would be responsible for the sea area to three hundred nautical miles off the Norwegian coast from a line connecting the southern tip of Lofoten and the southwestern tip of Jan Mayen to a line connecting the southern tip of Spitsbergen and North Cape. Air Leader North (West) would be responsible for the sea area west and southwest of the Lofoten–Jan Mayen line (see map 4).[165]

In the meantime, discussion at a meeting between Admiral Raeder and Hitler on 6 June focused on operations in the Arctic. Hitler was informed about the pending operation in which *Tirpitz* was envisaged to participate. His agreement was lukewarm at best, but he did not reject the idea. Hitler was unclear about the form in which the operation would be conducted, but felt it should not be a risky undertaking for heavy ships in any case. After the meeting, Raeder directed

Admiral Krancke, OKM's liaison to the führer's headquarters, to explain to the führer once again that the SKL placed great importance on the operation, but that it would require sufficient Luftwaffe air cover; it could not be successful otherwise.[166]

Hitler formally approved the plan for RÖSSELSPRUNG on 9 June. However, Raeder failed to respond forcefully to Hitler's remark that he now saw "great danger for heavy ships by the (enemy) aircraft carrier." This meant that the enemy carrier must be located prior to the attack on the convoy and eliminated as a threat to German heavy ships. The SKL was allowed to move the Trondheim group to Altafjord, but then had to await orders to attack. Such orders could come only following Hitler's approval. Raeder's failure to act energetically—to confront Hitler and get him to lift his restrictions on the employment of the heavy ships—was the key element in the ultimate failure of RÖSSELSPRUNG, notwithstanding the German forces' overall success against Convoy PQ17.[167]

EXECUTION

Convoy PQ17, now consisting of thirty-six ships plus one rescue ship, sailed from Hvalfjord at 1600 on 27 June.[168] (See maps 4 and 5.) It proceeded at six knots. The next day the convoy encountered heavy fog and ice floes in the Denmark Strait. One merchant vessel ran aground and an oiler was so heavily damaged by ice that it had to return. Several other ships suffered slight damage from ice.[169]

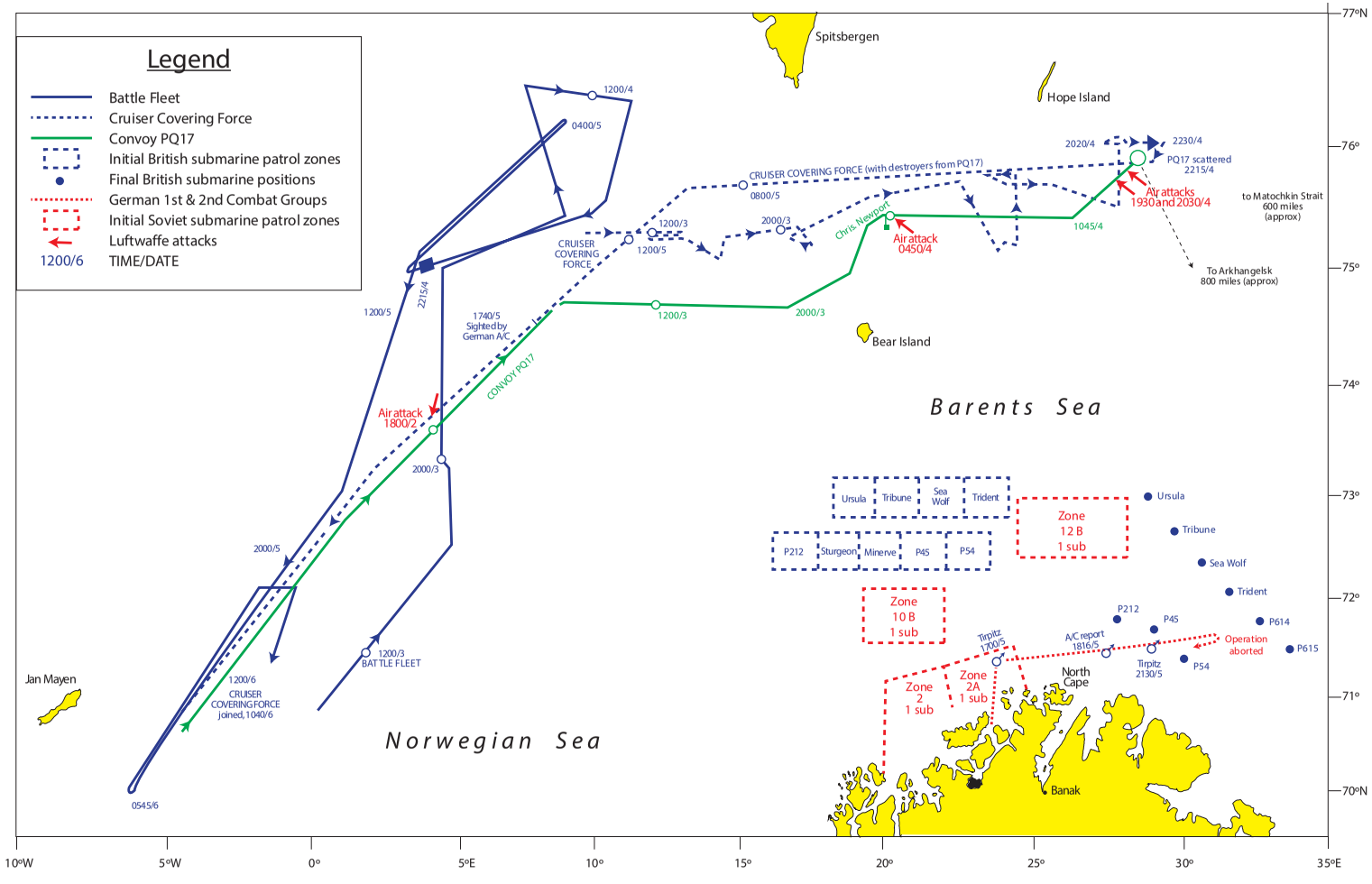
The Home Fleet's Battle Force sailed from Scapa Flow on 29 June. It followed a course northward so as to provide support to both the PQ17 and QP13 convoys.[170] Convoy PQ17 was fully formed at 1200 on 30 June when the long-range escort force (six destroyers, four corvettes, two auxiliary AA ships, and two submarines) under Commander Broome plus two rescue ships joined the convoy.[171] The convoy was then some one hundred miles southwest of Jan Mayen Island.[172] The next day, the Cruiser Covering Force sailed from Seydisfjord.[173]

Operation E.S.'s dummy convoy sailed on 29 June. It carried out its movement eastward toward the Norwegian coast on 30 June and 1 July. However, the Germans' reconnaissance aircraft did not observe it, and hence they did not react at all.[174] The entire deception plan was a failure.

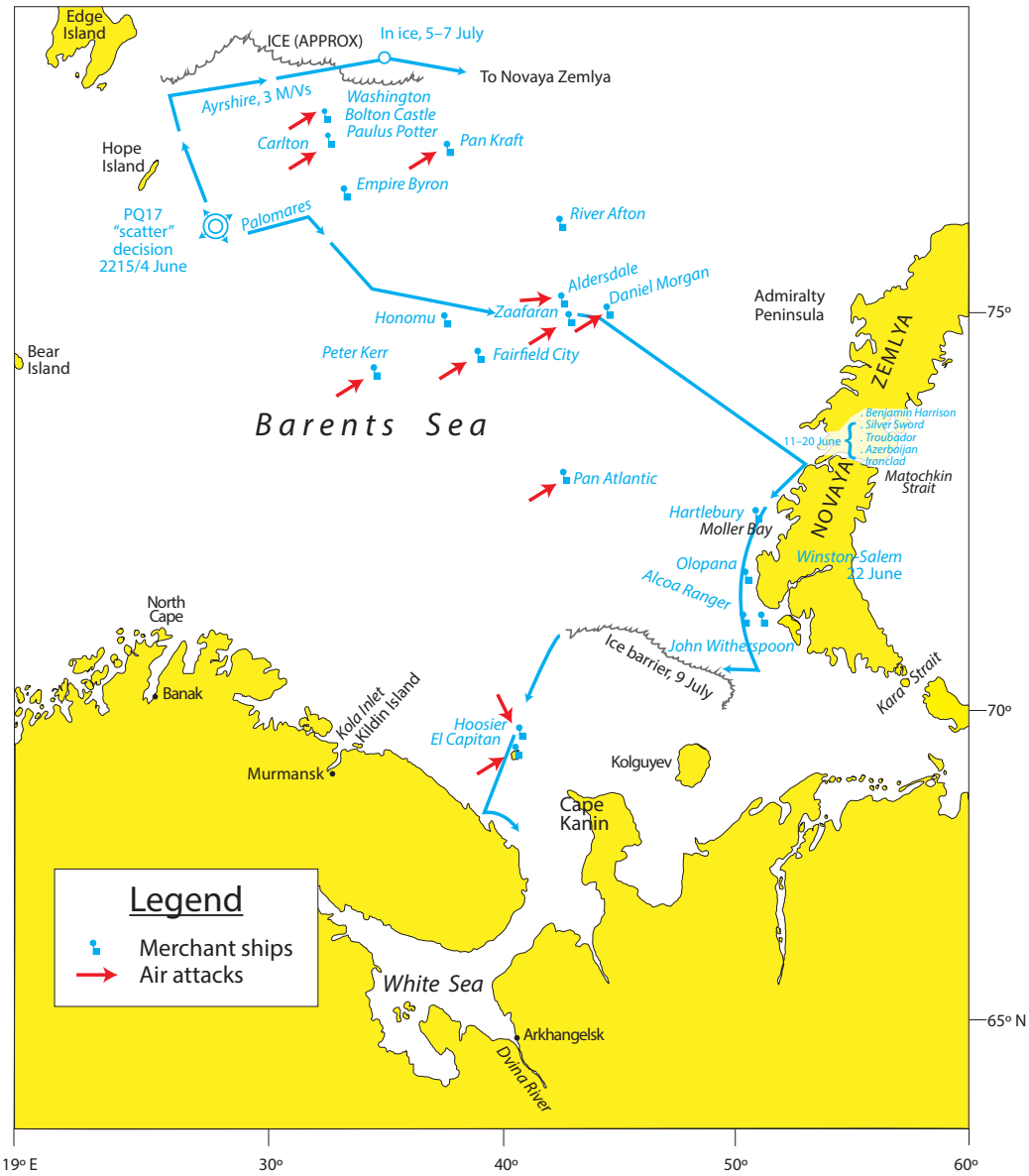
At 1640 on 30 June, Luftwaffe aircraft detected westbound Convoy QP13, consisting of thirty-nine ships and ten escorts, some two hundred nautical miles north of North Cape. However, because of heavy fog, the aircraft were unable to maintain contact.[175] At 1050 on 1 July, Convoy QP13 was sighted by *U-88* some 250 nm northeast of Jan Mayen, but was not attacked.[176]

At 1615 on 1 July, *U-255* was the first to detect Convoy PQ17. The reported position of the convoy was some sixty nautical miles east of Jan Mayen. *U-255* reported that the convoy consisted of thirty-eight steamers and ten to twelve

MAP 4
GERMAN ATTACK ON CONVOY PQ17, 3–6 JULY 1942



MAP 5
MOVEMENTS OF REMNANTS OF CONVOY PQ17, 4–17 JULY 1942



destroyers and other escort vessels. The convoy's speed was estimated at eight knots; B-Dienst later confirmed this.[177]

At noon on 1 July, the British first noted German shadowing aircraft over Convoy PQ17. The weather was calm. All the Allied destroyers had been refueled. The convoy was then some two hundred miles west of Bear Island.[178] The PQ17 and QP13 convoys passed each other at latitude 73 degrees N, longitude

3 degrees E, at a distance of some ten miles, on the afternoon of 1 July.[179] The Cruiser Covering Force overtook Convoy PQ17 and sailed parallel to it some forty miles north, so as to avoid German detection.[180]

In the meantime, Bletchley Park learned that the Luftwaffe had detected Convoy PQ17.[181] The OIC began to decrypt special intelligence traffic, extending from noon on 1 July to noon on 2 July. The OIC learned that the Narvik group had arrived at Altafjord that morning. It also knew that *Tirpitz* had sortied from Trondheim the previous night. This was confirmed by a British aircraft. Yet *Tirpitz* was not actually located by air reconnaissance that day.[182]

On 2 July, one fleet tanker and one destroyer left the convoy to join westbound Convoy QP13. On the evening of the same day, Convoy PQ17 ran into fog, which persisted until the forenoon of 3 July. Bad weather prevented Allied aircraft from reconnoitering the Norwegian ports for several days.[183]

Despite the failure to detect the Allies' heavy surface ship group, Admiral Carls believed that the pending German operation, including the incorporation of heavy surface forces, was fully justified. Deployment of the German ships would start after the enemy PQ convoy crossed longitude 5 degrees E, anticipated by the evening of 2 July.[184] Hence, in the forenoon of 2 July, Naval Group Command North requested that 1./SKL issue "execute" orders for the operation. This request was approved, and signals were sent at 1257 on 2 July. At 1200, the Trondheim group received an order to be in three-hour readiness.[185] On the basis of reports from *U-266,* Admiral Arctic decided to keep four U-boats in continuous contact with the convoy. By 1400 on 2 July, a patrol line of six U-boats was established halfway between Jan Mayen and Bear Islands.[186]

As planned, the Trondheim group sortied at 2000 on 2 July for Gimsøystraumen, and four hours later the Narvik group left for Altafjord.[187] *Lützow* ran aground in the Tjeldsund after it left Ofotfjord and did not take part in the operation thereafter. Likewise, three destroyers (Lody, Riedel, and Galster) of the Trondheim group touched ground in Gimsøystraumen and returned to Trondheim the next day.[188] The Germans believed (wrongly, as it turned out) that the enemy did not notice the deployment of the Trondheim and Narvik groups.[189]

About midnight on 2/3 July, the U-boats and aircraft lost contact with Convoy PQ17.[190] At 0700 on 3 July, the convoy changed course to due east to pass Bear Island, entering the Barents Sea. The Admiralty reported that the ice boundary was farther north than had been anticipated. Hence, Admiral Hamilton suggested to Commander Broome that he change to a more northward course. Yet Broome did not entirely accept that suggestion, because he was more anxious to make progress eastward.[191] He changed the convoy's course only slightly northward (to 021).[192]

At 1600, Admiral Carls asked for a decision regarding RÖSSELSPRUNG. He shared his intent to deploy the *Tirpitz* group to Altafjord with Raeder and the SKL. Afterward, Admiral Krancke was directed to transmit Raeder's approval of Carls's intent to Hitler. At the same time he was instructed to explain to Hitler that movement of the *Tirpitz* group to Altafjord was only a preliminary redeployment, and did not constitute execution of Operation RÖSSELSPRUNG. In a message sent at 1720, Carls ordered Schniewind to carry out the redeployment.[193] By deploying the *Tirpitz* group to Altafjord, only a few hours would be lost if Hitler's approval for the larger operation came before midday on 4 July.[194]

In the early morning of 3 July, the Admiralty informed CINC Home Fleet that a PBY-2 Catalina seaplane, backed by one B-24 Liberator heavy bomber if necessary, would patrol the area between latitude 71°30′ N, longitude 19°10′ E and latitude 71°55′ N, longitude 23°40′ E from 1530 on 3 July to 0300 on 5 July. This patrol was intended to cover the approaches from Altafjord to the convoy's route. Aircraft from Sullom Voe would conduct some additional searches westward of Lofoten. The plan also included having five Catalinas available at Arkhangelsk to provide searches for the convoy's passage after it crossed longitude 35 degrees E.[195]

At 0130, PQ17 changed course to 091. It sailed into an area full of heavy ice growlers.[196] At 0415, Luftwaffe aircraft detected Convoy PQ17 some eighty nautical miles northeast of Bear Island, equidistant from that island and Spitsbergen.[197]

At 0450, Convoy PQ17 suffered its first loss when a single enemy aircraft torpedoed the American merchantman *Christopher Newport* of seven thousand gross registered tons (in German documents, Bruttoregistertonnen, or BRT).[198]

During the day on 4 July, German aircraft maintained contact with PQ17, with only short interruptions caused by bad weather.[199] As of 1700, the Germans still did not have definite information regarding the presence of an enemy heavy covering group with—probably—one battleship, two to three cruisers, and three destroyers, reported as of 1352 as being northeast of Convoy PQ17 and sailing on a southeasterly course.[200] At 1745, Admiral Carls reported to the SKL that the area north of latitude 71 degrees N was not continuously observed. The 1st and 2nd Combat Groups were in a three-hour readiness status at Altafjord. Admiral Carls believed that, because of the situation, Operation RÖSSELSPRUNG should be launched no later than 1700 on 5 July.[201]

In the meantime, at about 1230, the Admiralty gave Hamilton permission to sail east of longitude 25 degrees E should the situation require it. However, the Admiralty had no intelligence that justified changing Tovey's plans. So Tovey qualified the Admiralty's message by directing Hamilton that "once the convoy is east of 25° E or earlier at your discretion, you are to leave the Barents Sea unless assured by Admiralty that *Tirpitz* cannot be met."[202] At 1520, Hamilton signaled that he would stay with the convoy until the enemy surface situation had been

clarified, but certainly no later than 1200 on 5 July.[203] These messages sent by the Admiralty marked the beginning of increased interference by Admiral Pound in the decisions and actions of his subordinate commanders during the operation, including bypassing Admiral Tovey to send messages directly to Tovey's subordinate Hamilton.[204]

During the afternoon of 4 July, British aircraft reported that *Tirpitz* and *Admiral Hipper* had left Trondheim. Admiral Tovey's force was then some 180–200 miles northwest of Bear Island. That position was within the mutually supporting distance for aircraft from the carrier *Victorious* to respond in case of enemy attack on Convoy PQ17.[205] At 1640, Hamilton ordered the convoy to change course from 090 to 045 to open distance from the enemy airfield at Banak to four hundred miles.[206]

That afternoon, Bletchley Park asserted that, although there was no verification via photographic reconnaissance, it was "tolerably certain" that *Admiral Scheer* and *Lützow* had been in Altafjord since 1400 on 3 July (when it became known they had left Trondheim). By the afternoon of 4 July, all four German heavy ships might have been at sea heading toward the convoy.[207]

At 1809, Admiral Hamilton replied to the Admiralty that he intended to withdraw to the westward of Convoy PQ17 at about 2200 on 4 July, upon completing the refueling of his destroyers.[208] Another message from the Admiralty, received about 1839, informed Hamilton that further information might be available shortly, and directed him to remain with the convoy "pending further instruction."[209] At that time, Hamilton's force was some ten to twenty miles ahead of the convoy.[210] Some 350 miles away from the Cruiser Covering Force, the Battle Fleet was in a hovering position southwest of Spitsbergen.[211]

Over the course of the day, the weather north of Bear Island steadily improved; however, the cloud ceiling was low (300–500 meters), making it easier for the enemy aircraft to attack the convoy.[212] The first attack with a few bombers came at 1930, but scored no hits. Luftwaffe aircraft carried out a series of more deadly attacks during the evening of 4 July. At about 2020, approximately twenty-three Heinkel (He) 111 torpedo bombers attacked the convoy. They torpedoed three ships; two had to be sunk, while one was damaged but was able to continue the voyage. Four enemy planes were shot down.[213] Convoy PQ17 came out of the heavy Luftwaffe air attacks remarkably well—its antiair defense proved very effective.[214]

At 2325, Bletchley Park sent the Admiralty an intercepted message: "Most Secret Source (Ultra): 1. Germans located westbound convoy from Russia on North Cape meridian P.M. yesterday July 2nd and have since lost in fog. 2. Eastbound convoy is expected to be sighted shortly and will be attacked in accordance with plan; 3. Warships are expected to move from Trondheim and Narvik (? 36) hours

before convoy reaches meridian 5 deg E. Main attack to be concentrated during passage between 15th and 30th meridian; 4. U-boats already on station close to Arctic. A two repeat A two." (*A2* was the level of reliability of this part of the report.)[215]

Decision to Scatter the Convoy

In the evening on 4 July, Admiral Pound personally went to Bletchley Park to get a close look at the stream of decrypted messages.[216] The OIC received good news at about 1900: that the code "break-in" had been accomplished, so the decrypts for the twenty-four hours that had ended at noon that day could be expected very shortly.[217] At 1918, Bletchley sent a message to Tovey that the German "CINC of the Fleet in *Tirpitz* arrived to Alta(fjord) 0900/4. Destroyers and torpedo boats complete with fuel at once. *(Admiral) Scheer* was already present at Alta(fjord) [so were *Hipper* and *Lützow*]. At 1623/3 two U-boats were informed their main task was to shadow convoy."[218] Commander Norman Denning of the OIC wanted to add to this message regarding *Tirpitz*'s arrival in Altafjord that morning and the directive to the destroyers and torpedo boats to refuel that the evidence indicated that *Tirpitz* was still at Altafjord. However, after some discussion with Admiral Pound, Denning's added text was deleted from the message before it was sent at 1918.[219]

It was not known how long refueling the destroyers would take. Although expected, receipt of the information about the German ships' arrival in Altafjord further reinforced the view that a move against the convoy, in accordance with the original plan, was imminent, if not already under way.[220] But Denning was not convinced the German ships had sailed out of Altafjord. He was supported in his view by his superior, Jock Clayton, the deputy director of the Intelligence Centre. (Clayton was a rear admiral on the retired list, but had been brought back onto active service as a captain.) Further support came from Harry Hinsley, the German traffic analyst at Bletchley. For Denning, the absence of any signal from Naval Group Command North to *Tirpitz* was an indicator that the heavy ships were still at Altafjord. The comparison was to *Tirpitz*'s foray against Convoy PQ12 in March. There also were no reports from the British submarines. However, Pound gave Denning no opportunity to explain his reasons; he instead asked direct questions, and expected to receive short, factual answers. Among several other questions, Pound asked Denning whether he *knew* that *Tirpitz* was not out to sea.[221] Denning responded that, on the basis of the experience of the German sortie against Convoy PQ12, the Germans would not risk *Tirpitz* if it might be in danger from the "Home Fleet, particularly its aircraft carriers."[222] He also tried to reassure Pound that "if *Tirpitz* has put out to sea you can be sure that we should have known very shortly afterward within four to six hours."[223]

Denning also pointed to several "negative" indicators that *Tirpitz* was not at sea. For example, Bletchley Park knew that the Germans had sighted CS 1 but had reported erroneously that it included a battleship. That would indicate a larger force, and therefore the Germans would decide not to send *Tirpitz* to sea. Bletchley had found no evidence the Germans had detected the heavy covering force. Another piece of evidence that *Tirpitz* was not out to sea was that the Germans did not warn their U-boats to stay clear of the convoy. Neither had the German wireless telegraphy (W/T) traffic since noon shown any extraordinary activity. The British and Russian submarines off North Cape had reported no sightings. Collectively, all these "negatives" were a good indication that *Tirpitz* was still at Altafjord.[224]

Nonetheless, to Admiral Pound's question, "Can you assure me that *Tirpitz* is still at anchor in Altafjord?" Denning responded, "No. I shall have information only after the *Tirpitz* has left."[225] On this question, in fact, hung the entire future of Convoy PQ17. Yet Denning was not in a position to give the desired assurance.[226] Pound then asked, "Can you at least tell me whether *Tirpitz* is ready to go to sea?" To this Denning responded, "I can at least say that she will not leave in the next few hours. If she were on the point of sailing, the destroyer escort would have preceded her and made an antisubmarine sweep. They have not been reported by our submarines patrolling the Altafjord."[227]

A stream of decrypts began to reach the OIC at 2000. However, they provided no new "positive" information bearing on Admiral Pound's question. By then, Clayton was due to attend a staff meeting at 2030 convened by Pound.[228] (Coincidentally, that meeting was held just when Convoy PQ17 was repelling enemy air attacks.)[229] At 2031, a decrypt timed 1130 on 4 July was received at the OIC. It confirmed that *Tirpitz* had not left Altafjord as of noon on 4 July. This signal was included in the summarized ULTRA message timed 2110. It had informed the U-boats that no German surface ships were then in their operating area, and that the British heavy ships, if encountered, should be their main targets. However, this information did not change the situation, because an assumption had already been made that the destroyers and torpedo boats accompanying *Tirpitz* would not have completed refueling until about noon on 4 July.[230]

At the 2030 meeting, Admiral Pound and his staff opined that the enemy attack could occur any time after 0200 on 5 July; if that happened, Admiral Hamilton's cruisers would be destroyed. They also (falsely) believed that the more widely merchant ships were dispersed, the better their chance of escape; once the alarm was given, the enemy would wish to spend no more time than necessary in the vicinity to pick off some ships. However, an eight-knot convoy might require a lot of time to disperse over a large area. The air and U-boat attacks had already started and were certain to continue.[231]

When Clayton returned to the OIC at about 2130, he informed his staff of Admiral Pound's view that the convoy had to be dispersed because *Tirpitz* had sailed and could reach the convoy by 0200 on 5 July. However, his staff disagreed with that assessment. They persuaded Clayton to go back to Admiral Pound and make the case that Admiral Tovey should be advised instead that *Tirpitz* had *not* sailed, and *would not* sail until the Germans obtained information on the strength of the Allied heavy covering force.[232] The naval section at Bletchley Park agreed with Denning's assessment that the weight of negative evidence suggested that *Tirpitz* was still at Altafjord. However, Clayton was unable to convince Admiral Pound, who had already made up his mind.[233]

The fate of Convoy PQ17 was decided by three short messages sent by the Admiralty. At 2111 on 4 July, Pound sent a signal to Hamilton (repeated to Tovey): "Cruiser force withdraw to westward at high speed." Pound sent another message directly to Broome (repeated to Hamilton) at 2123. It read: "Owing to threat from surface ships convoy is to disperse and proceed to Russian ports." This was followed by another at 2136: "My 2123/4th. Convoy is to scatter."[234]

At the time Admiral Pound made his decision, Convoy PQ17 was some 130 miles north-northeast of Bear Island; from North Cape, the convoy was almost due north (bearing 008) at a distance of about 240 miles.[235] The Allied ships had some 450 miles before they would reach Novaya Zemlya. The Battle Force was then some 230 miles from the convoy and four hundred miles from the *Tirpitz* group. In other words, it was too far away from both the convoy and the enemy heavy ships.[236]

At 2215, Commander Broome passed the signal to scatter to the convoy commodore. The convoy was then at 75°55′ N, 28°52′ E. Broome, with his destroyers (other ships of the A/S screen remained with the convoy), steamed away to join Admiral Hamilton's force.[237] Commodore Dowding sent a message to Broome: "Many thanks. Goodbye and good hunting"; Broome replied, "It's a grim business leaving you here."[238]

At 2230, Hamilton turned his force onto a westerly course, passing southward of the convoy—that is, between the convoy and the probable direction from which the enemy would approach. The visibility was extremely variable, with numerous fog patches. The Cruiser Covering Force, with the destroyers, withdrew westward at twenty-five knots.[239]

Both Hamilton and Broome were affected less by the content of Pound's three messages than by the quick succession in which they were sent. The cumulative effect of the three signals—especially since the last signal had a more urgent priority marking than the middle one—was to imply that danger was pressing on them.[240] They believed an attack by *Tirpitz* was imminent. Commander Broome

never forgave himself for obeying the order to scatter the convoy.[241] (The third message's order to "scatter" the convoy was actually merely a technical amendment of the term "disperse" that had been used in the second signal; but Hamilton and Broome could not have known this. Later, the official Royal Navy history would explain the two terms in a footnote. "Disperse" meant ships should break formation and proceed at a convenient speed toward their destination, remaining for some hours in close proximity to each other. By contrast, the term "scatter" meant they should begin sailing on different bearings, in accordance with a scheme laid down in the convoy instructions.)[242]

Officially, the decision to scatter the convoy was later explained thus: Convoy PQ17 still had thirty ships intact. The combined threat of air and U-boat attacks was considerable. The convoy had reached a positon beyond the effective range of the Battle Fleet, even if that force was put at risk to engage *Tirpitz* and the enemy's other heavy ships. In the Admiralty's view, if the convoy continued on its way, it would be harassed by enemy U-boats and aircraft. Any enemy heavy ships would most likely be encountered east of North Cape. The enemy would need no more than ten hours to reach the convoy, and could return to safety in less than that time. Hence, the decision was made to scatter the convoy, with the intention of minimizing the greater losses anticipated from a surface attack compared with those inflicted by U-boats and aircraft. But as it turned out, the convoy lost twenty ships after the signal to scatter was given, and only twelve ships reached Russian ports.[243] This reasoning was faulty because of the proven effectiveness of Luftwaffe bombers and Kriegsmarine U-boats in attacking individual merchant ships. The threat of enemy aircraft to PQ17 could be neutralized only by having superior airpower in the area—unlikely to be provided by the Soviets.

This was only the second time an Allied convoy had received the order to scatter. In the first instance, Convoy HX84 (bound from Halifax to Liverpool) received such an order on 5 November 1940 when *Admiral Scheer* was about to attack it. However, there were significant differences: the area in which HX84's thirty-seven ships could disperse was much larger, and neither German aircraft nor U-boats were attacking the ships. The earlier convoy was also protected by only a single escort ship *(Jarvis Bay)*. *Admiral Scheer* subsequently sank five ships, including the escort.[244]

The order to scatter Convoy PQ17 was given in glaring contravention of the "Atlantic Convoy Instructions and Orders" issued by Admiral Tovey in March 1942. They stipulated that in the face of enemy heavy ships, convoy escorts should remain in the vicinity to track and, if circumstances allowed, even to attack enemy surface ships. Tovey in his report noted that Convoy PQ17 had already completed more than half its voyage (when the decision to scatter was

issued, PQ17 was some eight hundred miles away from Arkhangelsk) yet had lost only three ships. In his view, the decision to scatter was premature—and disastrous.[245]

In a personal letter to Admiral Sir Percy Noble of the Western Approaches Command on 12 July 1942, Admiral Tovey placed responsibility for the destruction of Convoy PQ17 squarely on the Admiralty for "scattering of convoy unnecessarily early and . . . the appalling conditions of panic suggested by the signals they made." He also sent an officer "down to the Admiralty to make clear to them what the reactions at sea were to the information passed out and to those three signals in particular." Tovey also told the Admiralty on the phone that he considered it "wrong for the Admiralty to issue definite orders to the convoy and escort." The Admiralty should "give them information by all means and, if they wish make a recommendation, but leave it to the fellow on the spot to decide the action to be taken." The Admiralty's response was that it "consider[ed] it putting an unfair responsibility on to an officer of Commander's rank."[246] However, this did not absolve Admiral Pound from bypassing Admirals Tovey and Hamilton. Tovey also wrote that Hamilton was entirely responsible for the lack of action because he "failed completely to appreciate the altered situation due to his imagining that there was still a strong likelihood of his being brought to action by the *Tirpitz*." Hamilton also believed that the best course of action would have entailed the destroyer escort operating together with his three destroyers as part of the screen for CS 1. Tovey stated in his letter, "I deeply regret this mistake of his [Hamilton's] as there was not the slightest doubt that if the destroyers had returned to the convoy within a reasonable time they could have helped materially in its defence and in rescuing survivors."[247] Yet while the presence of destroyers obviously would have strengthened Convoy PQ17's AA defenses, it was unlikely they would have reduced significantly the number of merchant ships sunk.

At 0115 on 5 July, Admiral Hamilton sent the following message to Commodore Dowding, addressing both the convoy's merchant ships and the remaining escorts:

> I know you will all be feeling as distressed as I am at having to leave that fine collection of ships to find their own way to harbor. The enemy under the cover of his shore-based aircraft has succeeded in concentrating a far superior force in this area. We were therefore ordered to withdraw. We are all sorry that the good work of the close escort could not be completed. I hope we shall all have a chance of settling this score with them soon.[248]

Hamilton was very much concerned about the effect the escort force's apparent desertion of the merchant ships might have on morale. If he had known that the Admiralty had no more information regarding the enemy heavy units than

he himself possessed, he would have remained in a covering position until the convoy had widely dispersed.[249] It was later claimed that Admiral Pound would not have made his fateful decision except for the presence of two U.S. cruisers; the U.S. ships were operating under British command for the first time, and he did not want to lose them.[250]

On 5 July, the weather in the operating area was variable, between four-tenths and fully overcast, with fog banks. Atmospheric disturbances interrupted radio traffic sporadically. Convoy PQ17 was continuously shadowed by Luftwaffe aircraft.[251]

At 0238, Admiral Tovey received an ULTRA message that read: "1. It is not repeat not known if German heavy forces have sailed from Altenfjord [Altafjord], but they are unlikely to have done so before 1200/4th. 2. It appears that Germans may be in some confusion whether a battleship is in company with CS1. Germans do not repeat not appear to be aware of position of C-in-C Home Fleet."[252]

At 0322, the Admiralty sent a message to Admiral Miles in Moscow informing him that, on the basis of air reconnaissance,

> enemy heavy units have moved from Trondheim to Narvik and believed to be using a base in Alta fjord area from which to operate against PQ17. British forces other than close escort for PQ17 have been withdrawn west of Bear Island and convoy ordered to scatter in approximate position 76 degs North 28 degs East at 2200B/4 to proceed to North Russia ports. British submarines are being moved from previous patrol positions to area between latitudes 73 degs and 72 degs N and longitudes 23 degs and 32 degs E. Catalina aircraft temporarily based in Arkhangelsk will carry out reconnaissance between positions 74 degs N 28 degs E and 73 degs N 32 degs E.

The Admiralty requested that Miles try to arrange with Soviet authorities for regular air reconnaissance of the Altafjord area, air attacks against enemy heavy units in harbor or at sea, and the bombing of enemy airfields, "which is of added importance with convoy scattered."[253]

At 1625, an ULTRA message was sent to Rear Admiral Richard Bevan, the senior British naval officer in north Russia, advising him to anticipate that "most likely time of enemy surface attack is now tonight 5/6 July or early hours of tomorrow 6th July." The "enemy may strike on 065 degs direction from North Cape. Submarine and Catalina aircraft might sight enemy. Request striking force may be at short notice from 2000 today 5th July."[254]

In the meantime, German air reconnaissance reported at 0655 the presence of the enemy force, composed of the aircraft carrier *Ark Royal,* one (possible) battleship, four heavy cruisers, eight destroyers, and two torpedo boats, proceeding on a westerly course at fifteen knots.[255] This force was some five hundred miles away from the convoy, which had already scattered. For the Germans, this confirmed the accuracy of the aircraft report concerning the enemy cruiser force received

the previous afternoon (on 4 July) to the effect that no enemy heavy units were anywhere near the convoy. It was this report that enabled Admiral Raeder to get Hitler's final permission for the *Tirpitz* foray.[256]

During the forenoon of 5 July, the operational situation for the Germans was mixed. On the positive side, the convoy had been dissolved, probably because of the aerial and U-boat attacks. Most of the ships were still to be found within an area approximately sixty nautical miles on a side; however, the convoy's composition could not be precisely determined, because of the large size of this dispersal area.[257] The Germans mistakenly believed that the enemy cruiser group had moved westward because it had lost a heavy cruiser. The heavy covering force was located well to the west of Bear Island, and was making full use of fog banks to disguise its location and makeup. The distance from this group to the convoy was 450 nm, and to North Cape also about 450 nm. This distance was sufficient that there would be minimal danger to the German forces if they approached the convoy unobserved and got the engagement over quickly. If the enemy heavy covering forces were spotted during the German forces' approach to the convoy, there would be sufficient time to turn away.[258] In sum, the Allied heavy covering force was too far away to pose a threat to the 1st and 2nd Combat Groups moving to attack Convoy PQ17.[259]

General conditions for an attack by the German heavy ships on 5 July were less favorable than they had been on the previous day. The convoy was farther away—the area of combat would be eastward of North Cape. And during the withdrawal phase, the distance to the enemy heavy forces would be steadily reduced. But the risk was still bearable.[260]

Admiral Carls believed that (1) if any enemy battleships close to the convoy were damaged by U-boats and aircraft by 1200, he would be justified in carrying out the operation regardless of the presence of an enemy carrier; and (2) the carrier aircraft would have less of an impact if the convoy was attacked north of latitude 72 degrees N. The latest time for carrying out RÖSSELSPRUNG was 1300 on 5 July; otherwise, the attack would take place too close to the Russian coast.[261] Carls essentially requested that Admiral Raeder issue the code word for executing the operation, with no option to cancel those orders later *(Rückrufbefehle)*. However, Raeder refused to do so, because of Hitler's precondition that the enemy carrier must be taken out of the equation first. This was communicated to Admiral Carls at 0915. Thus, everything depended on the quality of the air reconnaissance. The enemy was unwilling to operate its heavy covering group within the effective range of the Luftwaffe torpedo bombers and heavy bombers. According to Admiral Carls, the enemy carrier group had already been at sea on 1 July, and he doubted it could continue to operate for too long. It was possible

that the heavy covering group would be withdrawn to refuel and take up a waiting position. Therefore he did not believe the enemy carrier group would pose a threat to the German heavy ships.[262]

Hitler finally gave permission for the operation during the forenoon of 5 July. This was the latest favorable time for the attack on the convoy, before it entered Russian coastal waters. The code word for the execution was issued at 1137. At the same time, Naval Group Command North took over operational control of the U-boats operating in Arctic waters.[263] Raeder communicated to Carls that the conditions for the execution of RÖSSELSPRUNG did exist unless the enemy carrier was detected or the German combat groups were detected by enemy aircraft. The führer's approval for the operation was transmitted to Admiral Carls at 1140. Forces that had been in one-hour combat readiness after 0900 were directed at 1052 to be in immediate readiness to sortie. At 1141, the combat groups received the requisite code word from Naval Group Command North. At 1230, Naval Group Command North took over control of the entire operation. It directed Admiral Schniewind to sortie by North Cape, passing Breisund and escorted by minesweepers.[264]

At 1700, the Soviet submarine *K21* reported (inaccurately) the presence of *Tirpitz, Admiral Scheer,* and eight destroyers at latitude 71°25′ N, longitude 23°40′ E, or some forty-five miles southwest of North Cape, sailing on a northeasterly course. The same submarine claimed to have hit *Tirpitz* with two torpedoes.[265] However, British intelligence believed that, in view of subsequent sightings, these claims seemed "improbable."[266] Despite the Soviet claims, *Tirpitz* had not in fact been hit; nevertheless, *K21*'s sighting report was of great value to Admiral Tovey.[267]

At 1816, Allied reconnaissance aircraft reported eleven ships at latitude 71°31′ N, longitude 27°10′ E on a northeasterly course at ten knots. The British submarine *Unshaken* (P54) shifted its original station farther east, and at 2029 it reported *Tirpitz* and *Admiral Hipper,* escorted by at least six destroyers, in latitude 71°30′ N, longitude 28°40′ E, steering course 060 at twenty-two knots.[268]

At 1700, the Germans received an important message, an interception of an Allied submarine sighting report of two battleships at latitude 71°25′ N, longitude 23°40′ E, sailing a northeasterly course. Along with the intercepted 1816 message, these reports left no doubt that the enemy had detected the German combat groups.[269] Also, starting at 1945 the enemy systematically began to disrupt radio communications on all channels, making the transmission of orders difficult.[270] A report from B-Dienst at 2006 indicated that enemy reconnaissance aircraft had sighted German combat groups in the North Cape area at 1700 and 1816.[271]

RÖSSELSPRUNG Is Canceled

Naval Group Command North concluded at 2000 on 5 July that the enemy heavy group was in generally the same position as on 4 July. The enemy heavy cruisers were detected at 1745 on 5 July sailing a westerly course. This group was observed until 2010, when it disappeared in fog. The Germans assumed that the enemy heavy covering group would have to reduce distance from the German combat groups to about two hundred nautical miles to attack, but not less than that, because of the danger of attacks from Luftwaffe aircraft based in northern Norway. This meant that RÖSSELSPRUNG could only be carried out within the time window from 2000 on 5 July to 0200 next morning. Although the attack on PQ17 might have beneficial psychological effects for the Germans, its chances of success in attacking a now widely dispersed convoy were small. Hence, it was not worth justifying the risk of engaging an enemy carrier force.[272] Carls believed that once the enemy had sighted the German combat groups, the entire operation had to be aborted. A clash with the enemy heavy covering group must be avoided in any case; the possibility that the enemy carrier might cut off the combat groups' withdrawal was unacceptable.[273]

Raeder and Carls conferred by phone at 2035 and 2103. They agreed that, given where the enemy heavy covering group had been sighted, the enemy would be able to bring it to bear against the German combat groups during their return to base.[274] On that basis, Raeder made the decision to abandon the entire operation; at 2132, Admiral Carls sent a message to Admiral Schniewind aborting RÖSSELSPRUNG.[275] Schniewind was directed to sail with *Tirpitz, Admiral Scheer, Admiral Hipper,* and five destroyers for North Cape, and afterward through the "Inner Leads" (the channel between Norway's mainland and the outer island chain) to Vestfjord. Operational control of the U-boats was turned over to Admiral Arctic.[276] *Lützow,* two destroyers, and the torpedo boats were directed to Trondheim, and were put under the control of Admiral Arctic.[277]

Raeder's decision was based on Hitler's view that Germany could not afford to put its few remaining heavy ships at risk. Because the Allied air reconnaissance had prematurely detected the German combat groups, it was highly possible that the *Tirpitz* group would be attacked by enemy carrier aircraft. Another factor in Raeder's decision was that the convoy had already widely dispersed, and the risk that would be entailed in employing the fleet forces would not be commensurate with the remaining mission elements—i.e., finishing off the enemy convoy would be better left to the U-boats and aircraft.[278]

At 0230 on 6 July, the Admiralty sent a message to Convoy PQ17's escorts stating that an "attack by enemy surface forces is probable in next few hours. Your primary duty is to avoid destruction to enable you to return to scene of attack and pick up survivors after enemy have retired."[279] Shortly afterward, the Admiralty

radioed that, in case of attack by the enemy's surface ships, when it was clear "that enemy heavy ships have retired to westward, request you will arrange for a search for survivors by all available means including my Catalinas in north Russia not required for searching and shadowing enemy."[280]

At 1946, the Admiralty sent a message to the PQ17 escort that the "risk of attack by enemy surface vessels is now greatly lessened." The escort vessels were directed to return to pick up survivors.[281] Those unable to do so but in contact with several merchantmen should form them into a group and escort them to Yokanga "unless otherwise directed by S.B.N.O. North Russia [Rear Admiral Bevan]." Escorts short on fuel should proceed to Arkhangelsk, where they would be refueled. The two auxiliary AA ships should not run the risk of taking part in rescue operations, but instead should proceed without delay to Arkhangelsk.[282]

At 1040 on 6 July, Admiral Hamilton's force joined the Battle Fleet. The weather in the area was unfavorable for air reconnaissance. Tovey felt that nothing was to be gained by steering northeastward. Hence, Hamilton's cruisers and eight destroyers were detached to Seydisfjord at 1230 on 6 July. Shortly afterward, the Battle Fleet turned southward. All the ships reached their home bases on 8 July.[283]

In the meantime, the Germans continued their efforts to detect and attack what was left of Convoy PQ17. On the morning of 6 July, the convoy's remnants were dispersed east of longitude 40 degrees E and over a 300-by-60 km (186 × 37 miles) area. The U-boats at that point had no contact with the remnants of PQ17. They were directed instead by Admiral Arctic to search for enemy ships in the area between longitudes 42 degrees and 48 degrees E. Two U-boats returned to Narvik during the night of 6/7 July; two other boats were under way to Kirkenes, where they would arrive on the evening of 6 July.[284]

On 7 July, Commodore Dowding (who survived the sinking of his ship by a U-boat on 5 July) organized a convoy of five merchant ships plus one rescue ship at Matochkin Shar (Strait), Novaya Zemlya, to head for Arkhangelsk. They were accompanied by two auxiliary AA ships, three corvettes, three minesweepers, and three trawlers, all remnants of Convoy PQ17's escort force. They formed up and sailed out on the evening of 7 July.[285]

Admiral Bevan's plan was to send one British corvette to reinforce the escorts and bring the ships to Arkhangelsk by transiting close to the east coast of Novaya Zemlya, south of Kolguyev Island, and around Cape Kanin. Bevan also informed the Admiralty that "C. in C. White Sea [commander of the White Sea Flotilla] is requesting C. in C. Northern Fleet that additional cover may be provided by 3 Soviet Union destroyers. Catalina leaves for reconnaissance 1000 B 8th. 4 more Flying boats approaching Svyatoy Nos."[286]

The ensuing voyage was full of accidents. The ships encountered heavy fog and ran into a solid ice barrier south of Byelushya Bay, Novaya Zemlya (the British

had not known about the ice, but the Germans did). This forced several ships to head for Yokanga anchorage. Admiral Bevan was completely unaware that the remnants of PQ17 had left Matochkin Shar until some ships reported entering Yokanga. This was because the Soviet Northern Fleet failed to inform Bevan about the ships' departure. The Soviets also provided no information to Bevan about ice conditions.[287]

During the night of 8/9 July, German aircraft reconnoitered the area west of Novaya Zemlya, the Kanin Peninsula, other western waterways, the piers at Yokanga, the Murmansk–Leningrad railway, and airfields in the Byelomorsk area (Onega Bay).[288] Because of heavy fog, they did not fly north of latitude 72 degrees N on 8 or 9 July. However, at 1151 on 9 July German aircraft reported the presence of a group of five enemy merchant vessels. Attacks by thirty-eight aircraft in two groups from 1st Group, 30th Air Wing (I./KG 30) at Banak followed. The Germans claimed that one seven-thousand-ton vessel and another of eight thousand tons were damaged. Because of fog at Banak upon the flyers' return, I./KG 30 was diverted to Petsamo, while II./KG 30 reached Banak.[289]

During the night of 9/10 July, some forty German bombers carried out a high-level attack against these ships for four hours, ending at 0230. The Luftwaffe received information on the convoy from U-boats operating in the area. Two Allied merchant ships were sunk, while four enemy aircraft were believed to be shot down. The surviving ships reached Arkhangelsk on 11 July.[290] Also on 10 July, German aircraft attacked docking facilities and fuel tanks at Rost and airfields in the Murmansk area, and suppressed coastal batteries on the Rybachy Peninsula.[291]

On 16 July, Commodore Dowding returned with three corvettes to organize another convoy from the remnants of PQ17 and bring it to Arkhangelsk. He arrived after a stormy voyage to Byelushya Bay on 19 July, where five merchant ships were at anchor plus two British trawlers and one Soviet icebreaker. Another merchant ship joined the convoy at Moller Bay, Novaya Zemlya, on the morning of 21 July. The convoy's defenses were reinforced by one auxiliary AA ship, one corvette, two minesweepers, and two Soviet destroyers on 22 July. Two days later, the convoy arrived in Arkhangelsk having suffered no losses.[292]

To sum up: between 2 and 10 July, the 5th Air Fleet employed 130 Ju 88s, forty-three He 111s (twenty aborted), and twenty-nine He 115s (six aborted) in attacking Convoy PQ17. In many cases, U-boats were able to sink heavily damaged ships initially hit by the Luftwaffe. The 5th Air Fleet stopped its attacks on Convoy PQ17 only when no further ships were sighted.[293] German losses in these attacks were only five aircraft: one BV 138, two He 111s, one He 115, and one FW 200.[294] In the aftermath of their attacks, the Germans grossly exaggerated their successes. Largely from B-Dienst radio intercepts, they claimed that between 4

and 11 July their aircraft and U-boats had sunk thirty-seven ships of 231,090 (actually 244,028) combined BRT.[295] They claimed positive information that U-boats had sunk sixteen ships of 107,947 combined BRT, while the 5th Air Fleet had sunk twenty-one ships of 136,081 combined BRT.[296]

The true losses were heavy enough without exaggeration. The attacks by the Luftwaffe and the U-boats resulted in the destruction of twenty-two merchant ships (fourteen American) of Convoy PQ17's thirty-four that tried to get through (or 65 percent).[297] The ships sunk carried 430 tanks, 210 aircraft, and 3,350 motor vehicles, plus 99,316 tons of other cargo.[298]

The almost total destruction of Convoy PQ17 had significant military, psychological, and political effects. In purely military terms, the Germans accomplished a major tactical objective. The decision of the British chiefs of staff on 13 July to recommend that convoys "should not be sent to Northern Russia in present circumstances" had a negative operational effect. The Royal Navy suffered a major loss of confidence regarding its ability to protect convoys to northern Russia.[299] Churchill sent a telegram to Stalin on 17 July informing him that further convoys to northern Russia would be postponed. This, in turn, had major political and psychological consequences. Stalin became intensely suspicious about Churchill's true motives. He believed that Britain might seek a separate peace with Nazi Germany.[300]

CONCLUSION

The decision to send badly needed supplies to the Soviet Union was made purely for political and strategic reasons. Admirals Pound and Tovey were opposed to that decision. Their main concern seems to have been the lack of adequate forces to support such an effort, and the possibility of large losses in naval ships and personnel. (The Soviets, for whatever reasons, were either unable or unwilling to provide much support in defense of the Allied convoys.) The British admirals' concerns were well founded. Not only was the convoy route to northern Russia long, but it was also open to deadly attacks by the Luftwaffe and U-boats. The problem was compounded by the prevalence of bad weather and ice conditions, and the long daylight hours in summer. Yet in retrospect, the decision to help the Soviet Union was sound, and fully justified strategically. It played a critical role in the Soviet ability to withstand the German offensive on the eastern front in 1941–42.

The Allied operational command organization seemed fairly simple and straightforward. However, for some reason the Home Fleet's area of responsibility was not formally defined. The Home Fleet was the single largest British naval command available for keeping the Kriegsmarine in check. However, its forces were never adequate, because of competing demands from other theaters. In

fact, it was forced repeatedly to provide ships to other fleets. The Home Fleet was primarily composed of heavy surface ships and carriers; it lacked an adequate number of smaller ships suitable for convoying duties. That was why Western Approaches Command provided most of the A/S escorts for Allied convoys to northern Russia. The U.S. Navy also reinforced the Home Fleet by sending its newly formed TF 39.

The German operational command organization in Norway and the adjacent area was highly unsatisfactory. No multiservice command was established in that theater throughout the entire war. This meant that each service prepared and executed its own operational plans. An effective employment of naval forces and the Luftwaffe was almost entirely dependent on close cooperation among mid- and low-level commanders. For the Kriegsmarine, the problem was not made much easier by having the Fleet Command forces within the area of responsibility of Naval Group Command North. In addition, the headquarters of Naval Group Command North was located too far away from its subordinate commands in Norway. To make things worse, the Kriegsmarine had a penchant for making numerous changes, in both titles and the subordination relationships among the various forces. This was especially the case with the Fleet Command. Another major problem was the insufficient freedom of action allowed to subordinate naval commanders, the result of too-close supervision by higher commanders. This was especially the case in the relationship between Naval Group Command North and Admiral Arctic.

Both the Allies and the Germans, in preparing plans for and employing their respective forces in combat, were greatly dependent on having well-organized and effective intelligence apparatuses. British naval intelligence proved to be much more effective because of the superb abilities of the decoders at Bletchley Park, especially at decrypting German naval messages. Despite widely held beliefs to the contrary, this task was never easy, because the German codes were difficult to crack; there were many times when Bletchley and the OIC were in the dark about German intentions, plans, and movements. This was especially the case for a large part of 1942, during which Bletchley Park was unable to read coded messages to U-boats.

German Naval Intelligence was well organized and quite effective at providing naval commanders with fairly accurate and timely intelligence on the Allied OOB, convoys, and the losses inflicted by U-boats and the Luftwaffe. B-Dienst was especially effective at reading messages regarding the composition, departure dates, and routes of Allied convoys. This proved invaluable to the Kriegsmarine, and its U-boat arm in particular.

The Allies developed their plans for convoying to northern Russia over time. Although some changes in plans were made for each convoy, the pattern was

consistent. The fact was that the geography and ice conditions in the Barents Sea gave planners little or no choice in selecting routes and defense forces for each convoy. Admirals Pound and Tovey were strongly opposed to sending convoys during the summer months, when they were highly vulnerable to attacks by enemy aircraft and U-boats; yet they had to execute the decisions made by the British and U.S. governments. Purely political reasons dominated Allied planning for convoys to northern Russia.

The German plans for Operation RÖSSELSPRUNG were the result of numerous studies prepared by all the major naval commands in Norway concerning the possibility of employing heavy surface ships and U-boats in the Arctic. As usual in the German military, the operational-level command issued an operational instruction, while subordinate commanders issued operation orders. However, the lack of joint-force commanders resulted in the lack of a single plan for the employment of heavy surface ships, U-boats, and Luftwaffe aircraft.

The operational instruction issued by Naval Group Command North on 4 June envisaged employing both the Trondheim and Narvik groups of surface ships. A major flaw in the plan was the unnecessarily complicated command relationship under which the Trondheim group was subordinate to Naval Group Command North, while the Narvik group was under Admiral Arctic. Only during the second phase of the operation were both groups under the operational command of Naval Group Command North.

A major prerequisite for the success of RÖSSELSPRUNG was comprehensive air reconnaissance of the potential operating area, followed by the weakening of the enemy heavy covering force. This would have meant the 5th Air Fleet's acquiescence to the request by Naval Group Command North to assign more aircraft for reconnaissance—but the 5th Air Fleet simply refused to do so.

But perhaps the single greatest problem was Hitler's unwillingness to risk any heavy surface ship to attack enemy convoys. This risk aversion, in essence, precluded any effective employment of the German heavy surface ships based in Norway, most notably to prevent the Allies from running convoys to northern Russia. The German ships retained value only to the extent that they inhibited a possible enemy amphibious landing and invasion.

Convoy PQ17 went ahead as planned. Although detected and tracked by German U-boats and aircraft, it suffered almost no losses until the evening of 4 July. Admiral Pound's decision to "scatter" the convoy at that point was perhaps understandable, but cannot be considered sound. No convoy should be left to proceed independently without its direct and distant covers. If the convoy was faced with destruction by a superior force, it should have been directed to withdraw temporarily to a safer distance or return to a safe port. Admiral Pound also violated some of the basic principles of sound naval command and control by

directly interfering with and bypassing Admirals Tovey and Hamilton. Tovey's criticism of the Admiralty was fully justified. The higher commander should normally leave the subordinate commander sufficient freedom of action for him to exercise the initiative in the course of an operation.

Positioning of the Home Fleet's Battle Fleet in relation to Convoy PQ17 on 5 July was clearly unsound: it remained too far away to provide distant cover and support to the convoy, and also too far away to engage the enemy heavy surface group effectively.

Admiral Raeder's decision to cancel RÖSSELSPRUNG on the evening of 5 July was unavoidable because there was little to gain from using heavy surface ships to try to destroy the widely dispersed ships of (the former) Convoy PQ17. The time to employ those heavy surface ships was prior to 5 July. Yet doing so was clearly impossible, given the strictness of Hitler's conditions for employing *Tirpitz* and its ilk. Yet *Tirpitz*'s presence in Altafjord and the ever-present possibility of its attacking PQ17 were the most important factors in the fateful decision to scatter Convoy PQ17, with the subsequent horrendous losses of Allied merchant ships from Luftwaffe and U-boat attacks.

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