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Example Fourteen.

From Hitler Directive # 41, 5 April 1942, (Eastern Front).<sup>1</sup>

"III. Air Force: (Southeastward drive, Stalingrad, Caucasus).

"Concurrently with its mission of furnishing direct support for the ground forces, the Air Force has the mission of protecting our assembly in the zone of Army Group South by more closely meshed air defenses. This applies particularly to bridges across the Dnepr River."

Example Fifteen.

From Hitler Directive # 41, 5 April 1942<sup>2</sup> (Eastern Theater  
(Measures to Improve and Stabilize the Situation all along the Line in the entire Eastern Theater).

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"II. A. ....

"However, wherever attacks with limited objectives ~~must~~<sup>be</sup> launched for this purpose in accordance with my instructions, steps will be taken to insure an overwhelmingly heavy commitment of all means of attack available to the Army and the Air Force, in order to secure quick and decisive results. Only in this way will it be possible, and particularly so prior to the opening of the spring offensive, to restore in our troops a feeling of unconditional invincibility, and on the other hand to hammer home to the enemy a realization of their

1. Karlsruhe Document Collection, G c  
2. Ibid.

hopeless inferiority.

"B. The next requirements in these areas are, on the Crimean Peninsula, to mop up the Kerch Peninsula and to bring about the fall of the Fortress of Sevastopol. The Air Force, and in the very near future also the Navy, have the mission of effectively interdicting enemy supply and replacement traffic in the Black Sea and in the Straits of Kerch in preparation for these operations."

Example Sixteen.

From Hitler Directive # 42, 29 May 1942. <sup>1</sup> Instructions for Operations in Unoccupied France and/or the Iberian Peninsula.

".....

"3. Concurrently with action directly supporting the operations of the ground forces, the mission of the Air Force will be to neutralize those elements of the French Air Force which are in France in coordinated action with the Italians.

".....

"....."

Example Seventeen.

From Hitler Directive # 43, 11 July 1942 (East). <sup>2</sup> (Continuation of Operations in the Crimea. Crossing of the Straits of Kerch and Advance along either Side of the Foothills of the Caucasus).

1. Karlsruhe Document Collection G c.  
2. Ibid.

".....

"4. Missions of the Air Force.....

"In addition to direct air support for the landing forces, it is important during this operation to prevent the enemy naval forces interfering with the crossing movements."

Example Eighteen.

From Hitler Directive # 45, 23 July 1942 (East).

".....

"B. Air Force.

"The mission of the Air Force is to initially commit strong elements in support of the troops crossing the Don River, and after this to support the advance by the eastern main attack group and consolidate the bulk of all available forces to annihilate Army Group Timoshenko.

"Concurrently, air support will be given to the operations of Army Group B against Stalingrad and the western parts of Astrakhan. Particular importance attaches here to destruction of the city of Stalingrad at an early stage. In addition, air attacks will be directed occasionally against Astrakhan.....

"In the operations which then follow main emphasis in the conduct of air operations will shift to support

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for the forces advancing against the Black Sea ports, in which action it will be necessary, in addition to the mission of direct support for the ground forces, to cooperate with our naval forces to prevent interference by enemy naval forces."

Individual Examples from the Period shortly before the End of World War II. (By this time the Supreme German Command was issuing detail orders instead of general directives, a sure sign of the confused situation).

Example One.

"17 April 1945. Situation Conference at Hitler's Command Bunker."<sup>1</sup>

"Hitler orders air action against the Autobahn from southeast towards Cottbus, against which the Russians are advancing with strong forces."

Example Two.

"20 April 1945."

"Hitler demands from me a guarantee that the jet units stationed in Czechoslovakia will be committed in force against the Russians advancing on Luebben."<sup>2</sup>

Example Three.

"21 April 1945."

At 0200 telephone discussion with General Krebs,

1. Karlsruhe Document Collection. Source: Karl Koller, "Der letzte Monat," p. 13. General Koller was the last Chief of the Air Force General Staff.
2. Ibid, p. 16.

Chief of the Army General Staff: Situation and desired areas of emphasis in air operations on 21 April.

"First Area: Russians advancing from Luebben against Baruth, and enemy armored forces in Jueterbog.

"Second Area: Support for attack by German Fourth Panzer Army northeast of Bautzen and south of Spremberg."<sup>1</sup>

Telephone Call by Hitler to General Koller.

"Hitler: 'Great consternation in city because of artillery fire. Said to be by a railway battery of heavy caliber guns. Russians said to have taken a railway bridge across the Oder River. Air Force will detect and attack the battery immediately.'<sup>2</sup>"

"Hitler demands report on number of aircraft committed in Kottbus-Berlin line. Then he desires commitment only in gap south of Kottbus..... He wants Rudel, who is to be committed with his ground-attack squadrons in the Kottbus gap....."

"General Krebs.....He informs me that Hitler now desires commitment of air units not only in the Kottbus gap, but that all targets should be attacked in precisely the same manner."<sup>3</sup>

<sup>1</sup>, <sup>2</sup>, <sup>3</sup>. Karl Koller, "Der Letzte Monat;" pp. 19, 20, 23, 24. Karlsruhe Document Collection.

(2) Missions Assigned by the Air Force HighCommand.

Example One. From Order by the Air Force High Command for the Polish Campaign (Excerpt from Operational Study 1939 Planstudie 1939, Volume II, page 9)

"3. The Mission of the Air Force is

"a. (Attacks against Polish air forces).

"b. To provide air support for the Army forces, particularly those which will jump off first to the attack, through direct and indirect support action even before they cross the border.

"The important point here is for adequately strong forces held ready for the purpose to break all resistance which might slow down the rapid advance on the ground; main effort in the zone of Tenth Army.

(Attacks against Polish mobilization centers and effective interdiction of the approach rail routes).

"8. Execution of the Attack.

"The bulk of all forces available will be committed in the first attack, which will be directed at the Polish air forces.

"After this main emphasis in air operations will be shifted to support for the Army, in accordance with Item 3, above.

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1. Karlsruhe Document Collection.

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"In any case adequately strong forces will be held available for direct participation in combat on the ground, particularly in the zone of the Tenth Army."

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Example Two. From Directive # 5 by Commander in Chief, Air Force, 7 December 1939 (Plan for French Campaign).<sup>1</sup>

"3. The mission of the Air Force is, while continuing operations against British naval forces and their bases, to employ the bulk of its forces in tightly concentrated action supporting the Army in main pressure areas. Here, it will initially be of primary importance

"a. To support our attacking armies in breaching the border fortifications and the defenses at the various and numerous phase lines. Concurrently, all-out attacks will be launched to delay the forward movement of Anglo-French forces and rearward elements of the Belgian Army, and to prevent any landing of troops.

"b. ....

"The Second Air Fleet will give direct support to the attack by the Sixth Army (Grevenbroich), prevent the forward movement of enemy reinforcements to the areas at the front, and attack troops which might be disembarking at the coast of Belgium and Holland....

.....

"Early and effective action to delay the advance

1. Karlsruhe Document Collection.

of Anglo-French forces into Belgium is of decisive importance. Under uniform control by Second Air Fleet Headquarters, the bulk of the bomber units of that air fleet will therefore at the beginning of the operations be committed in attacks against enemy forces concentrating and advancing towards the frontage of Army Group B...

"The IV Air Corps, under Lieutenant General (General der Flieger) Keller, on the first day of the attack will support an airborne operation by the 7th Air Division (more detailed instructions have already been given). The primary requirement here is direct escort protection and support during the approach and during the air drop against enemy action in the air and from the ground.....

"At the same time elements of the corps will be held readily available for combat action against enemy troop columns approaching the Brussels-Ghent line from the Lille area.

"The VIII Air Corps, under Brigadier General (Generalmajor) Freiherr von Richthofen, on the first day of attack will support with elements an airborne operation by the 7th Air Division (more detailed instructions have already been given), and otherwise will be instructed to give the strongest possible direct support to the Sixth Army. The primary mission of this corps will



95           be to decimate the Belgian Army west of the Meuse River. It is emphasized that attacks against settled areas are authorized if such settlements are unmistakably occupied by troops.

"The Third Air Fleet will give direct support to the attacking forces on the flanks of Army Groups B and A, and will take effective action to delay the forward movement of enemy forces from France.....

96           "The I Air Corps, under Lieutenant General (General der Flieger) Grauert will commit elements in continuous missions of close support for the Fourth Army (Euskirchen), and at an early stage will attack enemy forces moving forward from the Valenciennes-Fumay line towards the Meuse River.....

"The II Air Corps, under Brigadier General (General-major) Loerzer, will delay the forward movement of enemy forces from the French interior by means of attacks against those rail and <sup>road</sup> routes leading to and across the French border on which military traffic is detected, and will assign a composite bomber wing to provide direct support to the XIX Army Corps.

"The V Air Corps, under Brigadier General von Greim, will conduct counter-air operations....., and concurrently will commit elements to delay the movement of enemy

forces to and across the Franco-Belgian frontiers."

From Instructions for the Conduct of Operations, Supplementary to Directive # 5 from the Commander in Chief of the Air Force

/Prior to the Campaign in the West. Basic Problems of the Air Force Conduct of Operations.

"1. The main mission for all air corps in the first days of the attack is to provide the most effective support possible for the attack by the ground forces. The most important requirement in this mission is to attack the following categories of targets:

"a. Enemy troop concentrations of all types  
Identified higher level enemy headquarters  
and signal communication lines and installations.

"In operations against the Belgian Army, air attacks against enemy troops concentrations is one of the decisive conditions for a quick break through, particularly by the German Sixth and Fourth Armies.

"In addition it is important to detect the time at which the Franco-Belgian forces concentrate at the northern French frontier (with Belgium) and their movement into the Belgian interior. Since these movements will probably not become evident before forenoon on A-Day, early reconnaissance activities are necessary in the morning hours, while adequate attack forces will be held readily available. Early detection of the enemy concentration

I. Karlsruhe Document Collection.

movements is decisively important for an early strike at the concentrated enemy troops in order to disrupt prearranged movements and make it difficult for the enemy command to achieve its targets set for the day. This purpose can also be achieved if it should be possible immediately at the beginning of the attack to neutralize detected enemy headquarters and their signal communications systems.

"b. Infantry and Truck Columns on the March.

Once the enemy forces have commenced their forward movement, they will be taken under continuous attack throughout the day. Attacks will also be directed at rearward elements. The attacks will be in the form of "armed air reconnaissance," and will follow successively in quick sequences.

"If the 7th Air Division should be committed against G. or N.D., the attacks will be directed in concentration against those enemy forces which could be moved forward by the enemy against the paratrooper and airbarried infantry units, which are only lightly equipped for ground combat. It will be necessary to establish bombing limit zones in front of our lines in order to avoid endangering our own troops."

Individual Examples from the 1945 Period. By this time.

98 the process of general disintegration had progressed so far that the Air Force High Command was no longer issuing directives but detail orders. The examples given are from the War Journal of the Air Force High Command.

1. 1 February 1945.

"In view of the seriously critical situation east of the Oder River, the Home Air Fleet has instructions to commit from Air District Command III all available tactical, replacement, and experimental units, plus all units presently in process of reequipping and all operable units from schools against the enemy forces which, in a surprise drive, have broken through the Oder River defense line. For the time being the commitment of the 300th and 301st Fighter Wings and the night fighter units of the 1st Fighter Division against the western opponents is of lesser importance."

2. 2 February 1945.

"Home Air Fleet instructed to act in close agreement with Sixth Air Fleet in committing its units against targets on the ground in the east. For this purpose the 1st Fighter Division will immediately dispatch a suitable liaison officer to the Sixth Air Fleet. Tactical units of the Home Air Fleet will be employed exclusively against enemy bridgeheads at the Oder River and/or

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1. Karlsruhe Document Collection.

enemy concentrations east of the River."

3. 3 February 1945.

"Effective immediately, the II Air Corps, which has meanwhile arrived in Biesenthal, near Bernau, is assigned in all respects under the Sixth Air Fleet. This ~~corps~~ will assume command over the flying units in the zone of Army Group Weichsel (Vistula).

.....

"During today's heavy attack against Berlin the Reich Marshal asked the Chief, Operations Staff, why no fighters were committed in defense of the city. Because of the critical situation at the Oder River, the Air Force High Command had ordered the commitment of all fighter units, including those under the Home Air Fleet, at the eastern front. There they were attacking with bombs. At the time when the attacks against Berlin commenced the 301st Fighter Wing had already ~~dispatched~~ its units on their first mission at the Oder, and the units of the 300th Fighter Wing were ready to take off, with a bombload already on board, on a mission. The 3d Group, 7th Fighter Wing (Me-262 jet fighter aircraft) was not yet fully operable with all elements. The Chief, Air Force Operations Staff, suggested to the Reich Marshal that immediately after the Oder bridgehead

99 situation was satisfactorily settled, the fighter units previously committed in home defense plus other fighter wings dispatched to reinforce the Sixth Air Fleet should be transferred back to home defense. The Reich Marshal approves this recommendation. The Chief, Operations Staff discussed the matter by telephone with Colonel von Below, Hitler's adjutant."

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4. "6 February 1945.

"Consonant with the changed zone boundary line between the army groups, a new zone boundary line for bombing and reconnaissance operations between the Fourth and Sixth Air Fleets is ordered with effect from midnight 0000 hours, 7 February.

Pursuant to orders from the Reich Marshal the 1st Fighter Division, with its units will remain tactically assigned under the Sixth Air Fleet to support the ground forces at the eastern front. Elements not needed or not suitable for such operations will be released by the Sixth Air Fleet to the Home Air Fleet for commitment in home defense."

5. "7 February 1945.

"Operational order for Sixth Air Fleet submitted

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in draft form to the Reich Marshal for signature."

6. "8 February 1945.

"Because of large scale enemy attacks staged from from the Steinau area, the Sixth Air Fleet has requested approval to transfer Rudel's wing to the Kottbus area. The Chief, Operations Staff, rejects request because frequent displacements reduce operable strength of units and because the units cannot be employed to the maximum during the displacement movement."

7. "10 February 1945.

"The Chief of the Army General Staff has addressed a letter of appreciation to the Chief of the Air Force General Staff for the good performances of the air reconnaissance units committed in the east."

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8. "11 February 1945.

"The Sixth Air Fleet has authorization to use spherical drift mines for action against enemy bridges across the Oder River, particularly ponton bridges.

"The Sixth Air Fleet has requested approval to withdraw from action all school and replacement squadrons and elements, since their effectiveness is too small. The Chief, Operations Staff, rejects request for assignment of a regular He-111 group from the 53d Bomber Wing, but will request a decision from the Reich Marshal.

101 His reason for rejection is fuel shortage. In this connection the Chief of the Operations Staff gave orders that the ground-attack units of the Sixth Air Fleet are now also to use SD-2 bombs with time fuzes, particularly in attacks against the Oder River bridges; the stocks of these bombs held by the Home Air Fleet are to be delivered to the Sixth Air Fleet as speedily as possible."

9. "12 February 1945.

"Following oral report to the Reich Marshal, the Reich Marshal decided on the request of the Sixth Air Fleet as follows: The 3d Group, 53d Bomber Wing is to be reequipped by the Sixth (Supply) Branch with He-111 aircraft and assigned to the Sixth Air Fleet for commitment at the eastern front. The group cannot be assigned in its present condition, since it is equipped for operations with V-1 weapons. The Chief of Bomber Forces and the 6th Branch will take measures to expedite matters to render the group operable.

"The Chief of Supply and Administration draws attention to the fact that the current fuel supply situation makes it impossible for the Sixth Air Fleet to continue its extraordinarily heavy combat activities for much longer. In February deliveries of approximately



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101 400 tons of aviation fuel are expected from industry."

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10. 13 February 1945.

"The critical fuel supply situation makes it imperative to introduce stringent restrictions in all fields. In view of the serious developments in the situation on the ground in the east, however, fuel allocations to the Sixth Air Fleet will be given preference within the scope of the supplies available to the Air Force High Command. However, the Sixth Air Fleet will also have to adapt its operations to the serious fuel supply situations in order to be able to obtain decisive results with strong forces at decisively important points.

"Sixth Air Fleet is instructed, after receipt of SD bombs with time fuzes from Branch 4 of the Chief of Supply and Administration, to use these bombs in large numbers, particularly in night operations.

"Now that the Sixth Air Fleet has received fighter units and has also been returned its regular ground-attack and night fighter units, it no longer requires for combat action the units transferred to it by order dated 1 February from the Chiefs of Arms. These units, presently organized as tactical units, will therefore be deactivated and the elements will be returned to

the appropriate Chiefs of Arms."

11. "17 February 1945.

"The Sixth Air Fleet is instructed to conduct air photo reconnaissance as speedily as possible over those rail routes which are particularly important for the movement of enemy supplies and replacements, namely, the Warsaw-Kutno, Warsaw-Litzmannstadt, Warsaw-Chenstochau-Deblin-Skarzysko, and Debica-Krakau routes, and to direct day and night attacks against any enemy supply and/or replacements movements on these routes, particularly in the zone of Army Group Weichsel."

12. "18 February 1945.

"Supplementary to the order given on 17 February, the Sixth Air Fleet, under instruction by that order to attack enemy supply and replacement movements, is given special instructions to attack the large rail transportation movements detected on the westward routes."

13. "21 February 1945.

"Sixth Air Fleet is instructed to commit a full strength daytime fighter group to protect the Fortress of Breslau.

"To avert the danger of weapons-fire attacks against own ground troops, Sixth Air Fleet is given detailed

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instructions those units which have no experience in operations in the east or in army support operations."

14. "23 February 1945.

"Since the Russians for some time past have been moving the bulk of their supplies in the eastern territories occupied by them by rail, the Fourth and Sixth Air Fleets, supplementary to the order dated 17 February to attack enemy supply movements, are given supplementary instructions to increase their attacks against railway trains and particularly against locomotives."

15. "24 February 1945.

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"Because of the changed situation the order dated 6 February placing the 1st Fighter Division under the ~~Sixth~~ Air Fleet is rescinded. The Home Air Fleet thus resumes responsibility for combat action against aircraft penetrating to far inside Germany from the east. The 300th and 301st Fighter Wings and ~~and~~ the night fighter group from the 1st Fighter Division will from now on will only be committed in missions of support for the Army on express orders from the Air Force High Command."

16. "26 February 1945.

"In view of the expected continuation of the Soviet offensives directed at Berlin, the Sixth Air Fleet

104 in response to its own recommendations is instructed to organize a Fighter Command East. This headquarters is intended for the direction of operations by fighter forces (daytime) in concentrated action at points of main effort in the general area of Berlin. The command is assigned in all respects under the Sixth Air Fleet."

17. "31 March 1945.

"Fourth Air Fleet is instructed to shift emphasis in operations. Emphasis now to be primarily in the zone of the Second Panzer Army, secondly in that of the Sixth Army.

"On its own recommendations of 27 March the Sixth Air Fleet receives authorization to commit its "assault" (Sturm) groups, particularly to attack locomotives."

18. "3 April 1945.

"Owing to the critical developments in the Vienna area the instructions given the Fourth Air Fleet on 31 March are rescinded, and the air fleet is instructed to place main emphasis on the Vienna area."

19. "8 April 1945.

"For use against individual tanks and armored spearhead units breaking through the German defenses, the Chief Training Officer is instructed to organize from his own resources five Bue-181 squadrons armed

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with Panzerfausts (antitank rockets used by infantrymen).

"In this connection the Chief of Ground-Attack Forces, and the Sixth and Fourth Air Fleets are instructed to take expedited action to reequip four ground-attack squadrons with FW-190 Antitank Blitz aircraft in order to further reinforce the ground-attack units committed in the east. This measure is ordered in view of the imminent Russian major offensive."

20. "9 April 1945.

"In view of heavy enemy air commitments against Koenigsberg, Hitler demands reinforcement of our own fighter and ground-attack forces in Eastern Prussia. Owing to the lack of space on airfields in these areas this will hardly be possible. The Chief of Fighter Forces is examining the possibility of personnel changes."

21. "10 April 1945.

"Because of the increasingly critical situation in the southeastern areas of Germany, the 10th (Antitank) Squadron of the 2d Assault Wing (S.G.2) is transferred from the zone of Sixth Air Fleet to the Fourth Air Fleet."

22. "11 April 1945.

"In view of the expected early commencement of the Russian major offensive, the Home Air Fleet and

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105 the Sixth Air Fleet are directed to prepare for the transfer at short notice of the 4th and 301st Fighter Wings, presently in the west, to the east. The actual displacement will be subject to orders from the Air Force High Command."

"23. 12 April 1945.

"In consonance with the new boundary line ordered by the Army High Command between Army Groups South and Center, the Air Force High Command orders a new boundary line between the Fourth and Sixth Air Fleets.

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24. 12 April 1945.

"To support the defense of Berlin the Air Force High Command issues a new directive to the Sixth and Home Air Fleets supplementary to the order to those headquarters dated 21 March. The new directive requires to arrange the Sixth Air Fleet to transfer one ground-attack group, 1 fighter group, and one composite reconnaissance squadron to Tempelhof or to an alternate airfield within the inner defense perimeter."

25. 13 April 1945.

"The Supreme Military Command Headquarters having ordered a new boundary line between CINC Northwest and CINC West, a corresponding boundary line for combat and

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reconnaissance operations is ordered between the Home Air Fleet (northern areas) and Air Force (Luftwaffe) Command West (southern areas).

"New boundary lines are also ordered between the Sixth Air Fleet and Air Force Command Northeast (Luftwaffe Kommando Nordost) as well as between Air Force Command Eastern Prussia and the Home Air Fleet.

"The Sixth Air Fleet is instructed to commit the fighter and ground-attack units stationed in the northern segment of its zone in action supporting the defenses of Air Force Command Northeast if the Russian offensive should commence sooner in the Frankfurt-Kuestrin area than in the Forst-Muskau area.

"The 1st Group, 66 Bomber Wing is assigned under Force Helbig for combat action against the Oder and/or Elbe River bridges.

"Because of the changed chain of command in the east all preparations for air support in the defense of Berlin will now be handled by Air Force Command Northeast, instead of by the Sixth Air Fleet, in close agreement with the Home Air Fleet.

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"Intelligence Officer makes oral report on latest information concerning enemy preparations for attack.... In this connection the Operations Officer suggests that

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Air Force Command Northeast should direct a heavy attack by concentrated forces today to neutralize the enemy artillery in the Oder River bridgehead. Chief of General Staff approves if Army Group Weichsel approves."

26. "16 April 1945.

"The Army High Command having ordered a new boundary line between Army Groups South and Center, the boundary line between the Fourth and Sixth Air Fleets is changed accordingly.

"Since the Bue-181 squadrons being resquipped for the use of Panzerfaust antitank rockets on airfields in southern Germany are depriving other units of the use of those airfields, and since the use of these units in operations holds out no prospects of success, Air Force Command West has requested approval to deactivate them. Since chances for these units appear better in the east, the Chief of the General Staff orders transfer of the squadrons to the Fourth Air Fleet if that air fleet accepts the offer. If the Fourth Air Fleet also declines to use them, Air Force Command West can take the aircraft for other purposes."

27. "17 April 1945.

"Because of the critical situation in the Bruenn area,



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area, the Fourth Air Fleet is directed to shift emphasis in its operations to that area.

"To support the defense of Berlin Special Purpose Operations Staff (Fuehrungsstab zur Besonderen Verwendung) is instructed to use the 2d Fighter Wing for the organization of a well-equipped tactical group and transfer this group to the general area of Berlin."

(3) Order issued by an Air Corps.

Order issued by the X Air Corps concerning Preparations for operations in Norway and the occupation of Denmark.<sup>1</sup>

.....

"3. 1st Group, 1st Dive-Bomber Wing: Effective D-Day, H-Hour (Wesertag, Weseruhr) this group will be held under alert at Holtenau ready to take off within one hour after receiving appropriate orders on a mission to break resistance against our advance in Jutland or during the landing in Seeland, particularly in Kopenhagen....."

2. The Selection of Targets.

a. The Ruling Principles to be Observed in the Selection of Targets.

Excerpts from Air Field Manual L. Dv. 16.

Paragraph 126.

Cooperation with the Army will vary in accordance with the current situation, the time of action, the ob-  
l. Karlsruhe Document Collection.

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objective and nature of the mission, the terrain, and the type and strength of the forces available for the purpose. No set pattern exists. The determining factor is the requirement that the mission must produce results which will decisively affect the operations of the Army.

The all important point therefore is to strike targets which are such that attacks against them will be the most effective way of furthering the Army's intentions or supporting it in the execution of its mission on the ground, and also the most effective means of frustrating the plans and intentions of the enemy.

Such being the circumstances, air power can only have a decisive impact on the outcome of combat operations, if the principle of power concentration is applied by means of a proper consolidation of forces in point of time and area, and by means of continuing attacks in the most widely varying forms until the targets selected are destroyed.

Paragraph 127.

The scope of cooperation must not be too closely defined. ~~Combat~~ action against distant targets, such as the enemy air forces within the ground service organization, enemy transportation movements, and the enemy communications might be just as essential as attacks against targets in an area closer to the front lines.

109 Paragraph 128.

The mission of attacking these distant targets will often coincide with the missions of operational warfare. Proper timing will decide the impact of these attacks on the operations of the Army on the ground.

Paragraph 129.

The closer the opposing armies are locked in battle, and the more imminent the moment of the decisive battle, the greater will be the effectiveness of bomber operations in near front areas.

Through attacks in the rear these forces will disrupt the enemy supply installations and complicate the process of moving new combat forces forward. In segments difficult for the enemy to traverse, the bomber forces will endeavor to halt the flow of supplies, equipment, and personnel to the front. The important point here is that, consonant with the nature of air power, the bomber forces should be assigned vitally important targets which are such that their destruction can be expected if adequately strong forces are committed against them.

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Paragraph 130.

Against troops committed on line or in positions and who have not been jolted or are not hampered in their action

110 air attack as a rule holds out no prospects of success commensurate with the effort expended; in exceptional cases, such action can nevertheless be very effective. In contrast, heavy mass attacks carried out in good time and usually at low altitudes against advancing reserves, against movements in the enemy rear, or against retreating troops can produce decisive results.

The adverse effects on enemy troop morale often exceeded the actual damage done.

Paragraph 132.

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Operations against targets within artillery range are only justifiable when the artillery cannot execute its mission to the full.

After the commander directing operations on the ground had defined the purpose of the air action requested from the air units allocated to support his operations, the selection of the targets for attack as a rule was a matter for the officer directing the operations of the air units involved to decide.

Only in cases when the purpose of the mission was inseparably connected with the target, for example when the purpose was to destroy enemy tanks or to neutralize enemy

111 fortifications would the commander directing the operations on the ground designate the actual targets to be attacked.

Frequently, the only person who could decide in detail the targets to be attacked in the execution of his assigned mission was the commander of the air units involved from his vantage point in the air. This will be the case particularly when the mission is to be executed by means of armed reconnaissance action, for which purpose individual air units will be assigned permanent areas for patrol and combat action. The following examples are offered to illustrate what has just been said.

b. Who Selected the Targets?

From "Instructions for the Conduct of Combat Operations in the West. Appendix 4 to Directive # 5 by CINC, Air Force, Concerning Preparations for the Campaign in the West. (Anweisung fuer die Gefechtsfuehrung im Westen. Anlage 4 zur Weisung Nr. 5 Ob. d. L. fuer die Vorbereitung des Feldzuges im Westen.)"

"The effectiveness of attacking units will be increased if the wings each are assigned permanent combat areas. Unless compelling grounds exist these areas should if at all possible not be changed. The familiarity of a unit with the terrain and defense conditions within its combat area will facilitate the approach, the direction of operations, and the actual attack.

1. Karlsruhe Document Collection G V 2 a.

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111 In cases when the commencement of combat action is to  
 be determined in advance, what might be called a fire sche-  
 dule will frequently <sup>be</sup> arranged, between the ground command  
 112 and the air command involved, for the first phase of the  
 attack.

aa) Annex to Operational Order by the First Panzer

Army for the Attack across the Meuse River on 13 May  
1940. Campaign in the West (13 May 1940).

bb) Order for Assault Regiment, 16 May, 1941,

Concerning Support for the Airborne Operation by the VIII  
Air Corps.

Assault Regiment, AFO # L. 33525 O.U., 16 May 1941.

L. G. P. A. Muenster/Westphalia

Operations Section # 112/41 Top Secret.

Subject: Support by VIII Air Corps, through Merkur West  
Ref. . Attached Photo, Malemes Airfield.

To: Headquarters XI Air Corps, Athens.

A. Strong support is requested against:

Target 1 (AAA position) From Y minus 30 to Y-Hour

Target 2 " " " Y minus 30 to Y-Hour

Target 8 (aircraft parked at  
 edge of airfield) From Y minus 30 to Y-Hour

Target 3 (tent camp) " Y minus 30 to Y minus 5.

Target 6 (ammunition  
 depot) " Y minus 30 to Y minus 10.

B. One air strike is requested against:

1. Appendix 22.

2. Karlsruhe Document Collection.

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112 Target 4) }  
 Target 5) } Tent camps From Y minus 20 to Y minus 10  
 Target 7) }  
 Target 9) Settlement )  
 Target 10) west of ) From Y minus 15-~~to~~ Y minus 5  
 Target 10a) Malemes )  
 Target 10a) airfield )

S/Meindl.

c. Examples Illustrating Target Selection in World War II.

Example One.

From After-Action Report, 13 November 1941, by II Air Corps, after five months of warfare in Eastern Theater.

".....

789 tanks destroyed

614 guns destroyed

14 339 vehicles of all types destroyed  
 The number of vehicles damaged is inconceivable

240 field positions, machinegun pockets, gun positions, attacked with devastating results

Ceaseless attacks against moving columns, troop concentrations, and unloading operations have inflicted inconceivably heavy losses.

Example Two.

In the After Action Report under the title "Ge-  
schichtsbericht der 9. Armee und 2. Panzerarmee über die  
Schlacht im Urelbogen," it is stated on page 11:

"Over and above this the proud figures given by the 1st Air Division showing the results achieved in untiring~~XXXX~~ attacks against ground targets and in air

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combat action supporting the Ninth Army and the Second Panzer Army as the current situation required are strikingly impressive. In many an hour of supreme tension the situation was saved by this air division, the units of which during the battle in the Orel River bend area were committed as many as five and six times daily, carrying out a total of 37 421 missions and shooting down a total of 1 733 enemy aircraft, of which number fighters alone accounted for 1 671 enemy planes against losses of only 64 aircraft. In addition, units of the Air Force put 1 100 enemy tanks, more than 1 300 trucks and tracked vehicles, and numerous enemy artillery batteries out of action. Delivering more than 20 000 tons of bombs on enemy targets, the units also inflicted heavy losses in personnel, railway rolling stock, and supplies on the enemy.<sup>1</sup>

3. Critical Review. During World War II the major share of operations by the bomber units of the German Air Force was in support of army operations on the ground.

In the 1939 campaign against Poland and the 1940 campaign in the west, (France, Holland, and Belgium) this use of air power, together with the operations of highly mobile and flexible armored forces on the ground, represented  
1. Appendixes 23-33.



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an important element in the pattern of blitz warfare.

In the campaign against Russia the bomber forces were again committed primarily in support of the Army. This may have been wise until the advance on the ground reached the Dnepr River line, since it was the only possible way to insure a rapid advance on the ground. On this subject Air Field Manual L. Dv. 16 states with full justification in Paragraph 20:

The commitment of air power in missions of direct support for combat operations of the Army and the Navy is wise when operations of decisive importance within the pattern of the overall conduct of the war are involved.

Here again, the German Command failed to adhere to the principles established in the air field manual, according to which it is wiser to commit air power against distant targets which are such that their destruction or neutralization will have a decisive impact on the combat operations of the Army. In other words this means that air power should be employed against the resources of the enemy military forces.

After the autumn of 1941, from when on lengthy interval

1. Appendix 34: Outline map "Unterstützung des Heeres durch die Luftwaffe im Frankreich Feldzug, 1940."

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115 occurred between the various major operations on the ground, it would have been essential to divert at least some elements of air power to operations against the resources of the Russian military forces and against the ~~flow~~<sup>1</sup> of reinforcements and materiel to the front.

There is hardly any room for doubt that air attacks against the Russian tank factories, some of which had a daily output of 22 or an annual out put of 1 000 tanks of all types, would have produced more telling results than could be achieved by the laborious and costly process of antitank combat action on the field of battle.<sup>2</sup>

According to postwar information it appears that Russia in World War II produced 150 000 tanks, compared with a total of 25 000 produced by Germany.<sup>3</sup>

Added to this figure are the 13 303 tanks and other combat vehicles delivered to Russia by the Western Allies.<sup>4</sup>

## II. AIR OPERATIONS IN SUPPORT OF THE NAVY\*

### 1. The Mission as a Basis in the Selection of Targets.

#### a. Principles to Be Observed in Stating the Mission.

1. Appendix 35: Opinion of the Air Operations Officer, Air Force Operations Staff in Ia Op., Nr. 8865/43, g.Kdos., 9 Nov 43.
2. Guderian: Erinnerungen eines Soldaten, pp. 171-172.
- 3x See also Appendixes 37 and 37: Photos of 1942 tank battle at Voronezh and of the Voronezh tank factory.
3. Oberstleutnant Eike Middeldorf: "Taktik im Russlandfeldzug", Mittler & Sohn, Frankfurt on Main.
4. Ominbook, May 1947.

114 On this subject Air Field Manual L. Dv. 16 states as follows:

In Paragraph 20.

The commitment of air power in missions of direct support for combat operations of the Army and the Navy is wise when operations of decisive importance within the pattern of the overall conduct of the war are involved.

In Paragraph 134.

.....

Close cooperation with the Navy, and in particular direct participation in combat operations by naval forces requires familiarity with the inherent nature of naval warfare and the means of combat applied in such warfare.

In Paragraph 137.

If these essential conditions for close cooperation with the Navy are lacking, The Air Force can only provide indirect support for operations of overall importance at sea, but can commit its entire forces in missions serving this purpose.

b. Which Command Headquarters Stated the Mission?

These highly important decisions were usually taken by the

117 Supreme Military Command, which issued the appropriate directives to the Air Force High Command. The Air Force High Command, in turn, was responsible for the execution of the mission.

A system of liaison officers served to regulate contact and cooperation, a subject dealt with in "Das Zusammenwirken von Luftwaffe und Marine im Westen von Kriegsbeginn Bis zur Beendigung des Frankreichfeldzuges."<sup>1</sup>

c. Examples of Mission Assignment in World War II.

(1) Missions Assigned by the Supreme Military Command.

Example One.

From Hitler Directive # 16, 16 July 1940.<sup>2</sup> This directive states as follows concerning the air mission, in the event of a German landing in England, in support of the Navy:

"c. The mission of the Air Force is.....

"to neutralize coastal fortifications which can take effective action against the beachheads.....and against approaching enemy naval forces while these are still far distant from the crossing routes."

Example Two.

From Hitler Directive # 17, 1 August 1940, for the

1. Appendix 38.

2. Karlsruhe Document Collection.

117 Conduct of Air and Naval Warfare against Britain.

Paragraph 3.

Air operations against enemy naval and merchant ships can take second place after such action (attacks against ports) unless particularly important targets of a fleeting nature are involved, or unless they will serve to increase the effectiveness of the attacks stated under Paragraph 2, or unless they are essential for the training of crew members for the continued conduct of the war.

Paragraph 4.

Intensified air warfare will be so conducted that the air forces committed <sup>can be</sup> /diverted at any time to support naval operations with adequate power against favorable fleeting targets.

P  
Example Three.

From Hitler Directive # 1, 31 August 1939.<sup>1</sup>

In the conduct of warfare against Britain, ".... preparations will be made for air operations designed to hamper British seaborne import traffic, the British armament industry, and the transportation of British troops to France. Favorable opportunities will be

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1. Karlsruhe Document Collection.

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exploited for effective attacks against massed British naval units, particularly against battleships and aircraft carriers.

The Navy will conduct warfare against merchant shipping, particularly against that of Britain.

Example Four.

From Order By Supreme Military Command Headquarters, 14  
September 1940.<sup>1</sup>

1. b. As soon as preparations for the purpose are completed, the Air Force will execute its mission of attacking the British long-range artillery batteries firing on targets along the French coast.

Example Five.

From Hitler Directive dated 10 December 1940.<sup>2</sup>

To fulfill our agreement with our allies, German air forces in the approximate strength of a wing will be committed as soon as possible to operate from fields in southern Italy against targets in the Mediterranean Sea (for a limited period).

Their primary mission will be to attack units of the British Navy, particularly in the port of Alexandria, and to attack all enemy ships en route through the Suez Canal, the Straits of Sicily, and along the north African coastline.

1. Karlsruhe Document Collection. 2. Ibid.

119 Example Six.

From Order by the Supreme Military Command Supplementary to Hitler Directive # 20: Preparations for the Advance in the Balkans.<sup>1.</sup>

Instructions for Fourth Air Fleet.

c. ....as well as the naval forces interfering with the operations of our Army will be eliminated by means of attacks against the coastal bases and/or the naval units concerned.

Example Seven.

From Hitler Directive # 38, 2 December 1941, for Commander in Chief, South (Mediterranean).<sup>2</sup>

His missions are:

Forceful action to secure air and naval supremacy in the area between southern Italy and Northern Africa in order to establish secure routes of communication to Libya and Cyrenaica, for which purpose the continuous neutralization of Malta is particularly important.

.....

Interdiction of enemy traffic through the Mediterranean Sea and British supply movements from Tobruk and Malta; the necessary action will be closely coordinated with that of the German and Italian naval forces

1. Karlsruhe Document Collection.

2. Ibid.

available for the purpose.

Example Eight.

From Hitler Directive # 43, 11 July 1942.<sup>1</sup> (Continuation of Operations in the Eastern Regions of the Crimean Peninsula. Drive across the Straits of Kerch and along Both Sides of the Caucasian Foothills.)

The mission of the Air Force in preparation for the operation is to neutralize as effectively as possible the enemy ports and enemy naval forces in the Black Sea.

During the operation the important mission will be, ....., to prevent enemy naval forces interfering with the crossing movement.

(2) Missions Assigned by the Air Force High Command

Example One.

From Directive # 4<sub>2</sub> by the Commander in Chief, Air Force, 23 September 1939.

a. Since operations in the east are drawing to a close.....

B. Air Attacks.

1. Missions of the Second Air Fleet.

a. Main emphasis still remains on the exploitation of favorable opportunities for effective attacks against British naval units, particularly against

1. Karlsruhe Document Collection.
2. Ibid.



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battleships and aircraft carriers, or against troop transport ships. For this purpose operations are authorized for the time being in the Bight of Helligoland area as far as 5° 30' longitude east and 55° 30' latitude north. Close contact and secure and speedy signal communications between Naval Base Command West (Gruppenbefehlshaber West) and the 10th Air Division are indispensable for the execution of this mission.

Air attacks against naval units within naval ports and in the English Channel are still subject to prior approval. Part A, Paragraph 3 of the Directive specifically prohibited attacks against British merchant vessels<sup>7</sup>.

Example Two.

From Directive # 5 By the Commander in Chief, Air Force, 7 December 1939 For the Offensive in the West.

X Air Corps, under Major General (Generalleutnant) Geissler, responsible directly to me, will take combat action in accordance with my instructions against enemy naval forces, and will operate in accordance with my instructions against merchant shipping; the area of operations for the time being will include the North Sea, the English Channel and its western exits, and British

1. Karlsruhe Document Collection G V.

ports on the eastern and southern coast of England, and will not extend outside of these areas. For this purpose authorization is given, if the overall military situation and weather conditions permit, to also dispatch small bomber units on armed reconnaissance missions, and to dispatch reconnaissance planes immediately ahead of bomber units.

.....

At the beginning of and during Army operations in the west, the X Air Corps will increase the severity of its attacks against:

Seaborne targets and port installations;

The ground service installations of the British Air Force on British soil insofar as these are so located that air forces can operate from them against targets on the Continent;

Troop transport ships from Britain to France and Holland, both in their ports of embarkation and while at sea.

Attacks against the ports of debarkation are a mission of the Second and Third Air Fleets.....

(3) By an Air Corps Headquarters.

Excerpt from X Air Corps Operational Order, 3 April 1940,  
for the Campaign in Norway.

The bulk of our bomber units will be held available for action against British naval forces approaching

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1. Karlsruhe Document Collection.

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1st Group, 1st Dive-Bomber Wing.....

In addition, the necessity might arise for action against British naval forces appearing in the Skagerak. One squadron will be held ready for transfer to Stavanger from Weser-Hour plus 6 hours on. After its arrival in Stavanger this squadron will be committed in action against British naval forces which might appear in the outpost coastal areas off the western coast of Norway or in the Skagerak. If the necessity develops, the group headquarters and its remaining squadron will displace to Drontheim in the afternoon for similar purposes.

## 2. The Selection of Targets.

a. Principles to be Observed in the Selection of Targets. On this subject Air Field Manual L. Dv. 16 states as follows:

### In Paragraph 138.

The Air Force will then direct its operations primarily against the enemy naval and air bases, insofar as these are within the striking range of its units. By destroying the enemy system of naval and air bases, the bomber forces will reduce the striking power of the enemy.....

### In Paragraph 140.

If the own naval action is directed against enemy

123           troop transports or merchant shipping, the operations of the Air Force can be directed against enemy points of embarkation or debarkation, or against the ports handling import shipping. By attacking enemy embarkation and debarkation operations and destroying enemy imports, the Air Force will support the combat action of the Navy.

124           In Paragraph 141.

Attacks against installations of the enemy Navy at the coast or inland (such as naval bases, docks, shipbuilding and repairing yards, depots, and other military installations) can even be carried out when they are not coordinated in timing with naval operations.

Such attacks will weaken the enemy striking power and support the own conduct of naval warfare.

Over and beyond this, attacks against naval bases could compel the enemy fleet to leave port, providing the own fleet an opportunity for successful action.

Attacks against targets of the above type therefore will be executed in agreement with the Navy as a rule.

In supplementation of the above principles, the Commander in Chief, Air Force, on 10 January 1940 issued the following directive:

1

Ships at sea, as moving targets, are hard to

1. Karlsruhe Document Collection.

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hit. Only large and heavily maneuverable units, such as battleships, aircraft carriers, heavy cruisers, and merchant ships are favorable targets. In the case of smaller units the probability of hits is less favorable.

Attack missions will assign a priority and an alternate targets

Efforts to change the targets must not be allowed to lead to a scattering of forces. The number of targets assigned must at all times be commensurate with the strength of the units available.....

b. What Headquarters Selected the Targets? In special circumstances the Supreme Military Command or the Air Force High Command designated the targets to be attacked. Normally, however, the selection of targets was a responsibility of the field commander responsible for the execution of a mission.

In cases of direct air support for the Navy, the appropriate naval command stated to the Air Force the targets which it desired to be taken under air attack. The execution of the requested air strikes was then a matter of the air commander involved.

c. Examples Showing the Selection of Targets during World War II.

(1) Target Selection By Supreme Military CommandHeadquarters.Example One.

From a Directive By Supreme Military Command/Headquarters,  
24 August 1940, Instructions to Restrict Combat Action.

"a. Immediate and unrestricted armed action is prohibited:

"a. In the Proclaimed Blockade Area around

England:

" (1) Against Irish ships in waters within ten nautical miles of the coast of Ireland;

"(2) Against ships having a special transit approval if they are marked with special identification markings, and after their name, cargo, and course, have been stated.

"b. Outside the Proclaimed Blockade Area around

England.

(1) Against any ships which cannot be unmistakably identified as enemy ships (the term "enemy ship" to include Norwegian, Dutch, and Belgian ships if these are encountered traveling at night without lights and in waters outside German jurisdiction and not able to prove that they are acting under instructions from shipping firms domiciled within the areas or territories

under German occupation.

"(2) Against ships which can be identified as passenger ships not traveling in convoy.

"Ships of Spanish, Japanese, Russian, and USA nationality and ships chartered by these nations or by Switzerland for supply movements (the latter sailing under the Swiss flag and marked on the sides with that flag) are not under any circumstances to be stopped or intercepted or sunk in these areas. "

Example Two.

From Hitler Directive # 18, 12 November 1940. Preparatory Measures for the Conduct of the War.<sup>1</sup>

"Air Force. For the air strike against the port of Gibraltar all units will be earmarked which can participate with prospects of success.

"For the combat action then to follow against naval units and in support of the attack against the Fortress of Gibraltar it is of particular importance to transfer dive-bomber units to Spain."

Example Three.

From Hitler Directive # 40, 23 March 1942, Concerning Command Authority in Coastal Areas.<sup>2</sup>

"II, 2: For combat action against embarkation operations or against the transport fleet all suitable

1. Karlsruhe Document Collection.  
2. Ibid.

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naval and air forces will be consolidated, the purpose being to destroy the enemy as far as possible from the coast."

Example Four.

From Hitler Directive # 44, 21 July 1942.<sup>1</sup>

"The importance of this supply line (the Murman rail route) will again increase during the season in which weather conditions exclude any possibility of successful action against the convoys in the east."

(2) Examples of Target Selection by the Air

Force High Command.

Example One.

From Order by the Commander in Chief, Air Force, for the Attack against Poland (Operational Study 1939, Volume II, Revised Edition 1 March 1939).<sup>2</sup>

"Attacks against Gdynia may only be executed after the deadline established for the departure of foreign neutral ships has expired. Authority to commence action will be given by the Commander in Chief, Air Force.

"In contrast, combat missions against Putzig-Hela will be included in the first attack action."

1. Karlsruhe Document Collection.  
2. Ibid.



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Example Two.

Excerpt from "Air Operations in the North Sea Area 1939"<sup>1</sup>  
(Luftoperationen im Nordseeraum 1939)

"Pursuant to orders from the Commander in Chief, Air Force, British naval elements were taken under attack in the central areas of the North Sea on 26 and 27 September 1939. An aircraft carrier and a battle cruiser received several hits."

Example Three.

Excerpt from "Air Operations in the North Sea Area 1939."<sup>2</sup>

"On 17 October 1939 the series of attacks against Scapa Flow commenced. Three squadrons (one Ju-88 squadron from 1st Group, 30th Bomber Wing, and two He-111 squadrons from the 26th Bomber Wing), under a unified plan, had instructions to attack Battle Cruiser Repulse, allegedly damaged and presumed to be at Scapa Flow, until "decisive results" were achieved."

Example Four.

Commander in Chief, Air Force, 25 October 1939.<sup>3</sup>

"Missions.

".....

"b. Targets will be considered as of primary

importance in the following sequence:

1. Karlsruhe Document Collection G V 1; also Appendix 39.
2. Karlsruhe Document Collection, G V 1.
3. Karlsruhe Document Collection.

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Aircraft carriers

Battle cruisers

Battleships

Cruisers.

"Particular importance attaches to the British Mine-Laying Cruiser Adventure, which might be considered as a special type ship for mining operations in the Bight of Helligoland."

Example Five.

So far as the present author can recollect, the following target priorities were established for combat action against British convoys in the Mediterranean Sea engaged in moving supplies and replacements to Malta.

Regular and auxiliary aircraft carriers  
 Merchant ships in order of size, with first priority on oil tanker ships.  
 Naval ships providing escort protection. These were only to be attacked under particularly favorable circumstances.

Example Six.

From Directive by Commander in Chief, Air Force, # 5,  
Concerning Preparations for the Campaign against France. <sup>1</sup>

"Second Air Fleet will take under attack any troops detected debarking along the coast of Holland and Belgium."

Example Seven.

~~XXXXXXXXXXXXXXXXXX~~

1. Karlsruhe Document Collection.

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From an Order By Telephone to Fourth Air Fleet on 20  
February 1944.  
 1

"Now that the severe fighting in the zone of the First Panzer Army is drawing to a close, Fourth Air Fleet will shift emphasis in air combat and aircarried supply operations to the right flank.

"The main targets of attack will be enemy shipping concentrated at the Taman Peninsula, and enemy preparations for attack on the Kerch Peninsula and opposite our Ssiwash positions....

"Luftwaffenfuhrungsstab Ia

" 9245/44, Top Secret, Command Personnel Only.

"S/ Christian."

Example Fight.

Attacks against Invasion Ports of Embarkation.

"Fernschreibstelle (Teletype Station) Command Personnel Only

Robinson

# 011566, 7 May 1944 Officer Courier Only.

"Remark: Command Priority Message. Top Secret.

G-Rob.

"To Third Air Fleet.

"Reference: Lfl. Kdo 3 Ia Op # 361/44 g.Kdos, Chefs.,  
 27 April 1944.

"1. The operational plans and intentions submitted with reference letter are approved.

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"2. In addition to the targets in Paragraph 2, all those ports will be taken under attack in which concentrations for the invasion are detected. Furthermore, all smaller towns and villages, such as those ordered in OKL. FueSt. Ia/Flieg.Nr. 10967/44 g.h.Kdos., 5 May 1944, will be attacked, as well as London during weather conditions which preclude attacks against smaller targets.

"3. Within the pattern of attacks against invasion embarkation ports land mines can also be used, particularly those armed with new-type detonators so far as these have been released for use. D-instruments will not be used (refer OKL. FueSt. Ia/Flieg. Nr. 10968/44, g.Kdos., 5 May 1944).

"4. The 2d Group, 51st Bomber Wing, will combine its harassing attacks against the enemy ground service organization with attacks against settlements.

"OKL. FueSt. Ia/Flieg/ (Robinson)  
1  
"Nr. 9600/44 g. Kdos. Chfs."

#### INDIVIDUAL EXAMPLES FROM 1945

Quoted from the War Diary of the Air Force High Command.<sup>1</sup>

Example One, 7 February 1945.

Commanding General, German Air Forces in Norway

is authorized, in modification of the operational

I. Karlsruhe Document Collection.

131 orders for 26th Bomber Wing dated 1 November, to also employ the wing against merchant shipping if conditions are unfavorable for attacks against aircraft carriers."

Example Two, 10 February 1945.

"Commanding General, German Air Forces in Norway, has delivered the after-action report requested by the Air Force High Command Operations Staff on the first mission flown with air torpedos against a PQ convoy. According to this report the failure of this first mission of the type is due to faulty action on the part of the command of the 26th Bomber Wing. More Hohen-twiel instruments (Airborne long-range naval and submarine search equipment) have been lost. Neither the wing commander nor experienced group commanders participated personally in the execution of the mission."

Example Three, 11 February 1945.

"Owing to the southward shift of the ice line to the Aaland Sea area the possibility exists that Swedish ships might on their way to Finnish ports enter that part of the eastern reaches of the Baltic Sea established on 26 January as a zone of operations. For political reasons the order given at the time on the 'use of weapons' against Swedish ships is therefore

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modified to read that care will be taken to avoid the accidental sinking or accidental attacks against Swedish ships."

Example Four, 20 February 1945.

"In order to establish whether the Russians are using the port of Memel for E-boat operations, Sixth Air Fleet is instructed to conduct air reconnaissance over Memel. Furthermore, Sixth and First Air Fleets receive orders that all fighters committed in escort of patrol missions will attack the enemy E-boats."

Example Five, 11 April 1945.

"Commanding General, German Air Forces in Norway, suggests that the 26th Bomber Wing should be committed occasionally against enemy convoys along the east coast of England, in order to enable the wing to maintain its units in operable status. Chief of Air Force General Staff agrees in principle and will obtain approval from the Reich Marshal."

Example Six, 12 April 1945.

"Following oral report by Chief of Air Force General Staff, the Reich Marshal has approved commitment of the 26th Bomber Wing against enemy convoys along the east coast of England."

Further examples of air attacks against shipping will be found in the section on operations against import traffic.

(3) Other Examples of Target Selection.

Example One.

Bombing attacks during the campaign in Norway produced the following results:<sup>1</sup>

Ships sunk.

AAA Cruiser Curlew, British	on 26 May
Sloop Bitter, British	on 30 April
Destroyers Gurkha, British	on 9 April
Afridi "	on 3 May
Bison, French	on 3 May
Grom, Polish	on 4 May.

Ships damaged.

Cruiser Suffolk, British	on 17 April
" Aurora "	on 7 May
AAA Cruiser Curacao "	on 24 April
" " Cairo "	on 28 May
Cruiser Emile Bertin, French	on 19 April
Sloop Pelican, British	on 22 April
" Black Swan "	on 28 April
Destroyer Eclipse, "	on 11 April
" Maori "	on 2 May
" Somali "	on 15 May.

Example Two.

Shipping Losses Inflicted on the Western Allies during Combat in Greece and during Evacuation of the Western Forces.<sup>2</sup>

1. Churchill: "The Gathering of the Storm," Book II, p. 719.
2. Churchill: "The Grand Alliance," p. 233. See also Appendix 40-47 for achievements of German aircraft.

"From 21 April to the completion of the evacuation 26 ships were lost through air attack. Twentyone of these were Greek ships, including 5 hospital ships. The others were British and Dutch ships."

### 3. Critical Review.

a. The Assigning of Missions. Through Britain's entry into the war, followed by that of the USA in 1943, and through the extension of the war to the Mediterranean, the whole war entered a nature and scope far exceeding the strength and capabilities of the German Air Force.

The German Air Force found itself compelled to conduct operations at sea in the Baltic and North Seas, in the Atlantic, in the Mediterranean, and in the Black Sea.

For such purposes the German Air Force lacked the properly trained units and the types of specialized aircraft and weapons these units would have required.

In spite of efforts in this direction, Germany did not succeed in developing and manufacturing a serviceable front line 4-engine bomber.

It was only during the war that success was achieved in the development of usable special type weapons such as air torpedos and remote-control bombs.

Close cooperation with the Navy was a rare occurrence. In the later stages of the war such close cooperation



134 existed primarily in a certain measure of coordinated action between aircraft and submarines.

Instead of coordinated action with the Navy what very soon developed was a type of "air warfare at sea" which followed its own principles. The Navy, which maintained a permanent liaison staff under Admiral Moessel at Headquarters of the Air Force High Command found itself driven increasingly into an advisory role if its opinions were asked at all on the problems of air warfare at sea.

135 Then the Air Force found itself face to face with a new and hitherto unforeseen mission, that of protecting German and friendly convoys in the North Sea, the Baltic, the Mediterranean, and at times also in the Black Sea. The targets for attack in the execution of this mission were no different than those normally encountered in warfare at sea and included ports, enemy naval elements, which could menace the convoys; these latter in turn included surface and submarine units approaching the convoy under escort or which could threaten it by laying mines in its course.

b. The Selection of Targets. As is obvious from the examples offered above, it became necessary for the Command to establish a sequence of priority for attack determining which types of ships were to be taken under attack first

135 when various types of enemy naval ships were encountered simultaneously operating as a single unit.

It was logically sound to always first endeavor to destroy any regular or auxiliary aircraft carriers included in a fleet encountered, since primary importance attached to the battle for air superiority or supremacy also at sea.

Owing to the speed plus their strong defenses and their high maneuverability the smaller types of naval craft, such as destroyers, or E-boats, proved very difficult to hit, so that attacks against such targets required large expenditures of ammunition. It was found frequently that, for these reasons, action against such targets was only practicable when such craft through their very existence constituted a direct threat to friendly military forces or installations.

The Second Air Fleet therefore as a rule desisted from attacking smaller types of enemy naval units returning to Malta from a convoy mission, although E-boats did represent fairly good targets for attack with aircraft-carried cannon.

In the category of merchant vessels, tankers were a priority target.

On 16 October 1939 the German Air Force commenced a series of attacks against Scapa Flow, committing three squadrons in this mission, namely, one squadron with

136 the Ju-88 aircraft recently introduced as the standard bomber type (this squadron was a component of the 1st Group, 30th Bomber Wing), and two He-111 squadrons from the 26th Bomber Wing. The purpose in these attacks was to completely destroy the battlecruiser Repulse, reportedly damaged and assumed to be in port at Scapa Flow. Quite apart from the fact that the forces assigned for the purpose were totally inadequate, the mistake was made of executing the mission in three successive waves of aircraft spaced one hour each apart. Consequently, the purpose desired was not achieved. Instead, the whole action merely served to make the British Command aware of how inadequate the defenses were at this, their most important naval port, with the result that the British Fleet transferred from Scapa Flow Bay until the bay was adequately defended six months later.

The net result of the action thus was that the German Air Force sacrificed an opportunity to deal a successful blow with stronger forces against the British Navy.<sup>1</sup>

1. Churchill: "The Gathering Storm," p. 491.

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## CHAPTER THREE

## OPERATIONAL OR STRATEGIC AIR WARFARE

137 I. OPERATIONS TO INTERDICT COMMUNICATION AND TRAFFIC ROUTES.  
BASIC CONSIDERATIONS.

On this subject Air Field Manual L. Dv 16 contains the following passages:

In Paragraph 161.

Operations against enemy railroads and other transport facilities inflict material damage on the enemy and can serve to dislocate their entire transport system.

Attacks in the rear areas of the zone of operations complicate the forward movement of replacements and supplies to the front and, particularly during critical situations, cause serious difficulties in getting supplies to the troops in time.

Furthermore, disruption of railroads, roads, waterways, and lock installations can serve to isolate specific areas (ports of entry, manufacturing centers, inland harbors) from the hinterland and thus, by depriving an enemy country of the necessary supplies, seriously lowers its capabilities for resistance.

In Paragraph 162.

Operations against the enemy rail and other

137 In Paragraph 162--Continued.

transportation networks assume decisive importance during the concentration of troops and/or during regrouping movements.

In such situations operations to interdict the enemy communication networks must be conducted in very close agreement with the Army.

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A. RAILROADS.

1. The Assigned Mission as the Basis for the Selection of Targets.

a. Principles to be Observed in Stating a Mission.

On this subject, Air Field Manual L. Dv. 16 states as follows:

In Paragraph 163.

Although the increasing motorization of modern armies creates the possibility to move large bodies of troops in cross-country movements, it will not be possible to dispense entirely with the necessity for rail transportation of the bulk, particularly if long distances are involved.

The mission of operating against enemy concentrations and other troop movements thus consists largely of action to interdict rail transportation.

138      In Paragraph 164.

Proper timing of the attacks is important.

If a troop movement takes place partly in overland marches, this will reduce the time during which the whole movement will be in progress, and will also reduce the time during which the movement can be attacked while in rail transit and the duration of any action taken during such time.

An extensive exploitation of the dark of night for transportation movements, particularly in areas within range of long-range air reconnaissance, makes it difficult to identify and attack them in time.

In Paragraph 165.

Only on rare occasions will it be wise to direct preventive attacks against railroads prior to a troop movement expected to commence soon. Such action might result in failure and unnecessary expenditures and will allow the enemy an opportunity to repair damaged sections of the railroad in time or to reroute the entire movement. Furthermore, the impact will be greater if the attack takes place while the rail routes are crowded with transport trains.

138 In Paragraph 166.

In contrast, profitable results are likely to be achieved in preventive attacks aiming at the destruction of especially important manmade structures, such as river bridges, viaducts, and tunnels, which are such that considerable time would have to be spent to restore them to operability.

139 In Paragraph 170.

Once a transportation movement is unmistakably detected, the attack must be delivered as soon as at all possible.

PEACETIME PREPARATIONS FOR ACTION TO INTERDICT AN ENEMY RAIL NETWORK.

On the basis of a knowledge of the configuration of a frontier and since it was to be expected that an enemy would carry out large transportation movements in the event of war for the protection of those frontiers, it was possible already during peace to establish plans of operations designed to interdict the enemy railroad network.<sup>1</sup>

In Germany the preparation of such plans was carried out in close cooperation between the Air Force High Command and the Army High Command, the Rail Transport Branch of the Supreme Military Command also participating in a decisive role.

1. Appendix 6.

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Concerning the establishment of a plan of operations of this type, Air Field Manual L. Dv. 16 states as follows:

In Paragraph 171.

The attack must be planned to interdict the entire movement and preclude all possibilities to reroute it.

An overall plan must provide not alone for interdiction of the route on which the movement is currently taking place but also for the concurrent destruction of all parallel lines which could be used to reroute the movement, and of all connecting lateral lines.

b. What Command Headquarters Assigned the Mission?

The mission was stated and assigned by the Supreme Military Command, or by the Air Force High Command acting in agreement with the Army High Command, or by an Air Force field command.

In many cases the plans of operations prepared during peacetime provided the necessary basis.

On this subject Air Field Manual L. Dv. 16 in Paragraph 171 contains the following passage:

The instructions established during peace for operations against railroads provide a basis for planning and decisions. In consultation with railroad experts they will be supplemented and adapted to the current situation.



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c. Examples of Mission Assignments in World War II.

Example One. Concerns the planned invasion of Britain (Operation Sea Lion) in 1940.

From Directive # 16, 16 July 1940. Concerning the mission of the German Air Force in the event of a landing in England, the directive states as follows on the subject of interdiction of the enemy rear communications:

"c. The mission of the Air Force is....."

".....to destroy important transportation roads which could serve for the forward movement of enemy reserves  
....."

Example Two.

From Hitler Directive # 21, 18 December 1940: "Case Barbarossa Campaign against Russia.

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"B. ...."

"In accordance with their degree of importance for the conduct of operations the Russian rail routes will be interdicted or will be taken under control through the seizure of nearby important installations, such as bridges, in bold airborne operations by paratrooper and air-carried units."

Example Three.

From Hitler Directive # 41, 5 April 1942 (Planned drive on Stalingrad and Caucasus by Army ground forces).

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"If enemy concentration movements are detected, the main routes to the concentration area and the rail routes leading to the area of operations on the ground will be taken under attack far in the interior in order to achieve disruption of long duration; for this purpose destructive attacks will be directed primarily at the rail bridges across the Don River."

Example Four.From Directive # 44, 21 July 1942

"....."

"2. What is now of importance is to also cut the northern supply route which connects Soviet Russia with the Anglo-Saxon powers. Primarily this means the Murman railroad, on which the bulk of the materiel deliveries from America and Britain are shipped during the winter months. The significance of these supply routes will again increase when the season of the <sup>year</sup> arrives in which weather conditions preclude the possibility of successful operations against the convoys in the North."

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Example Five.Hitler Directive # 45, 23 July 1942.

"Because of the decisive importance of the Caucasus output in mineral oil for the continued conduct of the war..... In order to deny the enemy any possibility of

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receiving oil supplies from the Caucasus, however, and to achieve this as soon as possible, the early interdiction of the.....rail routes still available for such purposes is of particular importance."

(2) Mission Assignment by the Air Force High Command

Example One.

Railroad Interdiction in the Polish Campaign, 1939.

From Order by the Air Force High Command for the Attack against Poland; Excerpt from Operational Study 1939 (Planstudie 1939), Volume II, p. 9.

"3. The mission of the Air Force is

"a. Counter-air operations

"b. Missions of direct and indirect support for the Army.

"Attacks against Polish mobilization centers.

".....and through lasting interruption of the rail routes used in the strategic assembly movement to either delay an orderly assembly of the army forces or to halt the movement of enemy supplies and replacements, in accordance with the current situation."

Example Two.

During the Campaign in the West, 1940. From Directive # 5 by the Commander in Chief, Air Force, for preparations for the campaign in France.

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"In order to delay the movement of Anglo-French army forces into Belgium, interdiction of the ..... rail routes in Northeastern France and in Belgium is essential. The attacks will be directed primarily against ..... and rail transports.

"In agreement with the army groups the air fleets will plan and prepare for the attacks against rail routes .....in Belgium. Attacks designed to destroy rail bridges will be carried out only with prior approval by the army groups....."<sup>1</sup>

Example Three.

From the War Journal of the Air Force High Command.<sup>2</sup>

"17 February 1945.

"Sixth Air Fleet is instructed to conduct air photo reconnaissance as early as possible over the rail routes which are of particular importance for enemy supply movements, namely, the Warsaw-Kutno, Warsaw-Litzmannstadt, Warsaw-Czenstochau, Deblin-Skarzysko, and Deblin-Krakau routes, and to take any enemy materiel and personnel movements detected on these routes under day and night attack, particularly in the zone of Army Group Weichsel."

1. Appendix 49.

2. Karlsruhe Document Collection.

143 Example Four.

1

From the War Journal of the Air Force High Command.

"18 February 1945.

"Supplementary to the order given on 17 February to attack enemy movements of materiel and personnel, the Sixth Air Fleet is given special instructions to attack heavy enemy rail transport movements on the routes leading west."

Example Five.

2

From the War Journal of the Air Force High Command.

"23 February 1945.

"Since the Russians for some time past have been moving the bulk of the supplies forward by rail in the eastern territories occupied by their forces, the order issued on 17 February for the Fourth and Sixth Air Fleets to attack enemy supply and replacement movements is supplemented with instructions to increase the scope of attacks against railway trains and particularly against locomotives."

Example Six.

3

From the War Journal of the Air Force High Command.

"18 March 1945.

1. Karlsruhe Document Collection.
2. Ibid
3. Ibid.



145 campaign in France<sup>7</sup>..... will delay the forward movement of enemy forces from France through attacks against the rail routes in use for such movements to and across the Franco-Belgian frontier....."

2. The Selection of Targets.

a. Principles to Be Observed in the Selection of Target

On this subject Air Field Manual L. Dv. 16 states as follows:

In Paragraph 166.

In contrast, profitable results are likely to be achieved in preventive attacks to destroy particularly and large important/manmade structures, such as river bridges, viaducts, and tunnels, the repair of which would take considerable time to restore their operability.

In Paragraph 172.

Interdiction of the railroad network through the destruction of manmade structures at which a number of routes converge (river bridges, mountain passes) is particularly effective. However, the greater their importance to the enemy, the more strongly will they be defended, and, consequently, the more difficult will it be to attack them. The problem must be examined of to what extent effective destruction not achievable by air attack could be carried out by air-dropped sabotage teams.

146 In Paragraph 173.

Damage to rail tracks in the open country is more easily achieved but at the same time usually less effective. Here also small river bridges, embankments, and cuttings are profitable targets for attack.

Owing to their large size, large rail junctures and rail depots appear tempting targets. However, they should generally not be selected as targets for air attack.

The multiplicity of tracks at such rail depots enables the enemy to reroute traffic even if a number of the tracks are destroyed.

The destruction of signal and switch installations can hamper and delay, but cannot paralyze traffic.

Furthermore, large rail depots are usually heavily defended and maintain adequate reserves of materials and personnel for the quick repair of any damage.

In Paragraph 174.

Attacks against moving trains are effective. The effectiveness will be enhanced if the attacking planes succeed in destroying the tracks just ahead of the moving train, particularly while the train is on an embankment or in a cutting.

In Paragraph 175.



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Attacks against unloading operations are advisable if the attacks against the movement itself have failed, or if the movement was detected too late to be taken under attack.

In favorable terrain conditions and if the enemy forces are crowded into a confined space attacks while the enemy forces are loading or unloading can lead to sizable tactical successes.

Contrary to the concepts expressed in the above principles however, the German Air Force expended greater effort on attacks against rail depots. In order to prevent the movement of transports through large rail depots the German Air Force developed a method which is explained more fully in Appendix 1 48. No provision was made in this method for action against railway rolling stock.

b. What Headquarters Selected the Targets? Whereas either the Supreme Military Command or the Air Force High Command as a rule assigned and stated the mission for rail interdiction operations, the selection of the individual targets was usually a responsibility of the command directing the execution of the mission. In special circumstances the air fleet headquarters reserved the right to designate specific

1. Appendix 48: "Schematisches Beispiel einer Bahnhof Bekämpfung."

147 targets.

148 c. Examples of Target Selection in World War II. The following After-Action Report by the II Air Corps, 13 November 1941, after five months of warfare against Russia, is offered as an illustration of the selection of targets.

According to the report, units of the corps in the report period executed 3 579 railroad interdiction missions. The results achieved were

1 736 points at which railroads were interdicted

159 railway trains destroyed

1 584 " " damaged

304 locomotives destroyed

103 " " damaged

Loading and unloading operations taken under attack continuously.

The following order by the Sixth Air Fleet, controlling Air Force Operations in the center of the eastern front, to its subordinate 200th Air Command and dated 23 March 1945, exemplifies the specification of targets for attack by an air fleet headquarters.

"A. Operations against Vistula River Bridges:"

1. The object is to cause lasting ~~interruption~~ of rail communications in the far enemy rear in order to retard the new enemy concentration of forces and the

I. Karlsruhe Doc. Collection; See also Appendixes 50-52.

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148 movement of enemy reserves and supplies, which will have a decisive impact on the overall course of operations on the ground.

Speedy action is urgently required.

149 With the current status of development of the enemy railroad network being as it is, the immediate destruction of the following important railroad bridges, in order to isolate the entire area west of the Vistula River, is essential. In order of priority sequence:

- a. The Vistula River bridge at Warsaw
- b. The Dunajec River bridge east of Krakau
- c. The Deblin Vistula River bridge
- d. The Thorn Vistula River bridge.

.....

3. Over and above this, preparations will be made for action to insure that bridges interrupted will remain inoperable (also, if necessary, for repeat attacks if the initial attacks should fail), and here the following bridges, after their repair by the enemy, will be included in the list of targets:

- a. Fordon bridge, east of Bromberg
- b. Sandomierz bridge (if ~~repaired~~ repaired)
- c. Vistula River bridge in the Schroettersburg-

Dirschau section (after it has been repaired).

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Code Designation: Eisenhammer I.

B. As part of the continuing mission, which will soon assume high importance, of combat action against the Oder River bridges, it will also be necessary to insure the destruction of all important bridges across the Oder River, and preparations will be made for such action shortly after commencement of the expected large-scale enemy offensive. Preparations will provide for the possible necessity to commit composite aircraft, for which purpose the 30th Bomber Wing will be employed.....

The following report by the Sixth Air Fleet to the Air Force Operations Staff can also be regarded as another example.

Command Personnel Only Command Priority Message

2 April 1945

Officer Courier Only

To OKL FueSt. Ia. Robinson

1st Copy

Reference: OKL FueSt. # 10685/45 g. Kdos./Chefs.

Intentions: To commit composite aircraft against rail bridges.

1. The plan is to achieve a single concentrated and simultaneous attack striking the rail bridges at Dunajec, Deblin, Warsaw, and Thorn.

Size of Attack: Six composite aircraft per bridge plus two per attack force as stand-by reserve at takeoff.

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150

Overall Strength Required: 32 Mistel composite aircraftExecution:

Case A. (possible only up to night of 4-5 April or from night of 22-23 April on).

Takeoff at night, attack to last at latest until one hour after first dawn.

Action to be supported by 15 aircraft from the 2d Group, 4th Bomber Wing, to mark the route.

Case B. Takeoff, attack, and return landing during daylight if cloud coverage is adequate.

2. In the event of a lengthy spell of weather offering favorable attack conditions for action against only some of the intended targets, attacks will start simultaneously, as a part mission, against all targets which currently can be attacked. In such case efforts to be made to at least destroy those bridges simultaneously which are of vital importance for separate enemy operations against Army Group Weichsel or Army Group Center.

S/ v. Greim

Lfl. Kdo. 6, # 856/45 g.Kdos./Chefs.

Chief of General Staff (E) to  
HQ, Sixth Air Fleet. # 856/45 GKDOS Chefsache received:  
S/Oblt. Weigert, Robinson. 3 April 1715 ' ' ' QSL properly  
received. Sattig Lt LEKQ

3. Critical Review.

a. Statement and Assignment of Mission.

151 In the course of the war the German Command time and again resorted to large scale railroad interdiction operations. One example out of many is that of the railroad interdiction missions assigned during operations to seal off the battle area of Kiev in the 1 September-25 September 1941 period.<sup>1</sup>

In view of the paucity of traffic routes in Russian territories, the German Air Force High Command attached such high importance to the interdiction of rail routes, that it at certain stages organized temporarily special railroad interdiction squadrons.

b. Target Selection. In deducing and compiling lessons learned on the subject of the conduct of air warfare, which found their expression in Air Field Manual L. Dv. 16, those compiling the manual made the mistake of considering a combat action against railroads too exclusively from the viewpoint of actions against transportation movements.

It escaped their notice that the accumulation of loaded rail freight cars at sizable rail depots for all practical purposes, because of their size, should be considered as equivalent with large storage depots. Very frequently supplies were "stored" at these points on a scale and in a concentration would have been hard to find elsewhere. Another circumstance to be taken into consideration was that Germany's opponents,  
1. Appendix 53.

152 through their practice of leaving trains loaded with ammunition standing in rail depots, facilitated action to destroy the entire rolling stock in such depots.

In practice the German intermediate commands, probably because of their realization of the implications, did not allow themselves to be restrained from succumbing to the "tempting targets" referred to in Paragraph 173 of Air Field Manual L. Dv. 16. The air photo of Vyazma included among the specimen photos <sup>1</sup> shows a bomb hit pattern from an attack of this type against a large rail depot, a type of attack carried out again and again by the German Air Force during the War. Other of the photos of the ground shows the results <sup>2</sup> achieved in such attacks very clearly.

The Russians were ~~not~~ expecting attacks of this type, a circumstance possibly due to their knowledge of the German air field manual. At the beginning of the campaign they therefore carelessly left their ammunition and fuel trains standing in rail depots among other trains loaded with other types of supplies. Thus, surprise attacks by units of the II Air Corps against the large rail depots of Vyazma and Bryansk resulted in the greatest destruction so far achieved, as will be seen from the photos showing the results of bombing attacks against the Vyazma rail depot. <sup>3</sup> All rail tracks

1. Appendix 54.                      2. Appendixes 50, 51.  
3. Appemdix.

152 in the depot area were destroyed, and the depot remained inoperable for a period of fourteen days during a particularly critical phase for the Russian side.

B. CANALS AND OTHER WATERWAYS.

1. The Mission as the Basis in the Selection of Targets.

a. Principles to be Observed in the Statement and Assignment of Missions.

The following passages dealing with this subject are quoted from Air Field Manual L. Dv. 16:

From Paragraph 161.

Operations against enemy ..... traffic routes inflict material damage on the enemy and can serve to dislocate their entire transport system.

.....

Furthermore, the interdiction of ..... waterways and lock installations can serve to isolate specific areas, such as import ports, manufacturing or other producing centers, and inland ports, from the hinterland and thus, by depriving the enemy country of the necessary supply shipments, can seriously decrease its capabilities for resistance.

From Paragraph 153. (Which deals with warfare against the enemy manufacturing and other producing economy).



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In some cases effective results can be obtained through destruction of the ..... waterways playing an important role in the outward transportation of the production.

b. What Command Headquarters Stated and Assigned the Mission?

As a rule responsibility for the statement and assignment of missions lay with the Supreme Military Command, the Air Force High Command, or the next lower level of command in the Air Force, namely, the air fleets.

c. Examples of Mission Statement and Assignment in World War II.

(1) By Supreme Military Command Headquarters.

Example One.

Mediterranean Campaign 1940-41, Directive # 18, 12 November 1940. Preparatory Measures for the Conduct of Operations.

.....

.....

3. Italian Offensive against Egypt.

Air Force.

Will prepare for offensive operations against Alexandria and the Suez Canal, in order to deny the British the use of the latter in the conduct of the war.

154 Example Two.

Campaign against Russia, 1941. Directive # 45, 23 July 1942.

Snipping in the lower reaches of the Volga River  
will be disrupted through mine-laying operations.

Example Three.

From a Directive By the Navy High Command, 24 August 1940:

"Instructions Restricting the Zones of Combat Operations."

".....

"B. In the Pan-American safety zone our naval forces  
will not seek battle on their own initiative.

"Mine-laying operations in this zone and also in  
American  
other/coastal waters not included in the declared zone  
also are subject to prior approval by the Fuehrer.

That plans were taken into consideration later to destroy  
the Panama Canal is revealed by the following passages from  
a publication by Erich Gimpel in the illustrated journal  
the "Muenchner Illustrierte:"<sup>1</sup>

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Operation Pelikan.

"The sensitive spot in the 480 miles of the Panama  
Canal, which links the Atlantic with the Pacific  
Ocean, is the weir in the middle of the dam embankment  
(shown in red circle). It was against this point that  
Operation Pelican, for the preparation of which Erich  
Gimpel was responsible, was directed. The dam holds  
I. Appendix 55.

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back the masses of water carried by the Rio Chagres into the manmade Gatun lake, through which leads the navigable channel of the Panama Canal. Three locks, each approximately 1 000 feet long, serve to raise the water level from sea level at the Atlantic coast to the altitude in the section between the Atlantic and the higher manmade lake. With each ship moving through the lock system roughly 30 million gallons (104 million liters) of water escape from the lake to the ocean. Gimpel's plan of action was based on the difference of altitude between Lake Gatun and the Atlantic Ocean: A bombing and destruction of the weir would necessarily result in the draining of the lake. It would take two years for the Rio Chagres to refill the lake--two years during which the Panama Canal would remain impassable for ships, and thus two years during which the only sea route connecting the two oceans would be that around the southern tip of Latin America. Loss of the Panama Canal would have been a terrible blow to the navies of the Western Allies in World War II, the greatest war of materiel of all times.

Another plan to interdict enemy supply and reinforcements through an ocean channel, this time in the eastern theater is that illustrated by the following excerpts from

155 "Document 7644/42 Chef Genst., Chef-sache, 17 April 1942," being notes taken at a conference at Hitler's Headquarters on 17 April concerning operations by the Fourth Air Fleet:<sup>1</sup>

As part of the preparations for our attack against the Kerch Peninsula (on the Crimean Peninsula), which in all probability will start in early May, The attention of the Fourth Air Fleet will be drawn to the following:

From now until the start of the attack the severest possible action must be taken to disrupt transportation to the Kerch Peninsula. In view of the short time it takes to cover the distance between Novorossiysk and Kerch, it will frequently not be possible to attack in time, and while they are still at sea, ships reported as detected en route. For this reason main emphasis in operations to interdict enemy transportation movements will be on attacks directed at the ports of Kerch and Kamish, and on combat action against Novorossiysk and Tuapse.<sup>2</sup>

(1) By the Air Force High Command. It is a well-known fact that the Commander in Chief time and again issued instructions assigning missions of the type under discussion here, for example, mission to attack the Suez Canal and, in the far north of Russia, the White Sea or Stalin Canal. However, no written evidence is available at writing.

1. Karlsruhe Document Collection.  
2. Appendixes 45 and 56.

2. The Selection of Targets.a. Principles to be Observed in the Selection of Targets.

Targets. In order to achieve success in operations against canals, the attacks must be directed primarily against manmade structures, and particularly against such targets as lock installations, ship-lifting installations, and dams, insofar as the latter serve to carry the canal at a level higher than the surrounding terrain. Attacks to sink ships could also prove profitable.

b. What Command Headquarters Selected the Targets?

In view of the relatively small number of points at which a canal system can be interdicted, it was possible for the Supreme Military Command or the Air Force High Command to specify in the mission assignment the targets to be taken under attack. In other cases the selection of targets could be left to the discretion of the headquarters directing the execution of the mission.

c. Examples of Target Selection in World War II.

Only a few examples in this field are available. Although they are in the negative sense they nevertheless serve to outline the type of targets in question here.

Example One.

Order Prohibiting the Interdiction of Canals. Campaign

195a

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in Western Europe, 1940.From Directive # 5 by the Commander in Chief, Air Force,  
Concerning Preparations for the Western Campaign.

Action to destroy the lock installations of the  
Albert Canal will be taken only by my orders or in re-  
sponse to urgent request by Army Group B.

Example Two.Teletype Message from Headquarters, Commander in Chief,  
Air Force, 25 February 1941.

Attacks of any type are prohibited against

.....

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c. Manmade structures or ships in the canal of  
Corinth, since it will be of the utmost importance to  
maintain uninterrupted own ship movements through the  
canal once it is under our control.

Example Three.Combat Action against Lock Installations. Excerpt from the  
War Journal of the Commander in Chief, Air Force, 1945.

12 April 1945.

The attack prepared by 200th Air Command against  
the Antwerp lock installations will not be executed.

3. Critical Review.

a. The Statement and Assignment of Missions. During  
World War II combat action to intercept traffic on waterways

158 played only a limited role. The operations of this type carried out by the German Air Force during the war were designed primarily to halt traffic in the Polar Canal in northern Russia, which was used by the Russians during the summer months for the transportation of part of the military supplies received from the Western Allies.

The Suez Canal came under attack four times in the 1 May to 7 June 1941 period without any really serious consequences.

Mining operations in the Volga River were carried out only occasionally and then with inadequate means.

b. Target Selection. Nothing important can be said here on this subject.

A new method of warfare applied during World War II was that of mine-laying in waterways, the object being to sink ships in the canal thus mined and thus close it to traffic.

### c. Road Routes.

#### 1. The Mission as the Basis in the Selection of Targets.

a. Principles to be Observed in the Statement and Assignment of Missions. On this subject Air Field Manual

L. Dv. 16 contains the following passages:

In Paragraph 177.

As motorized transportation increases, road networks gain increasing importance for the movement of troops.

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If the intention is to interdict troop movements on road routes, the same considerations apply as in the case of rail routes.

The results achieved will at no time be as effective as those achieved in the case of rail interdiction. The possibilities to reroute traffic are far greater. Catastrophic effects, such as those which a train derailment might achieve, are impossible on roads.

The results will be more serious in regions with few roads and in mountainous terrain than in level country

In Paragraph 162.

Combat action to interdict enemy rail and road routes becomes a matter of decisive importance during strategic assemblies or regrouping movements.

b. What Command Headquarters Stated and Assigned the Mission? As a rule requests for road interdiction operations came from the Army High Command to the Air Force High Command, since the necessity to destroy roads was always connected with movements of the hostile ground forces. However, requests for this type of air action could also come from a field army as part of the air support mission. On this subject Air Field Manual L. Dv. 16 contains the following passages:



160 In Paragraph 162.

Attacks against the traffic networks of the enemy  
 ..... must be carried out in very close cooperation with  
 the Army.

c. Examples of Mission Statement and Assignment in  
 World War II.

From Directive # 5, Commander-in Chief, Air Force, Concern-  
 ing Preparations for the Western Campaign. (Pursuant to a re-  
 quest by the Army High Command).

To prevent\*the movements of Anglo-French army for-  
 ces into Belgium, combat action is essential against  
 ..... and road routes in northern France and Belgium.  
 The attacks will be directed primarily against troops  
 and truck columns en route.....

Preparations for the attacks against ..... and  
 road routes in Belgium will be made by the air fleets  
 in agreement with the army groups. Bridges will be  
 destroyed only in agreement and with the approval of  
 the army groups.

The II Air Corps, under Brigadier General (General-  
 major) Loerzer, will delay the approach of enemy forces  
 ..... and  
 from France by means of attacks directed at the/roads  
 to and across the Franco-Belgian frontiers on which  
 movements are detected.

\* The German text here reads "Zur Versorgung....." which  
 would mean "for the supply of.....", which is obviously  
 a typographical error. Translator

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2. The Selection of Targets.

a. Principles to be Observed in the Selection of Targets. On this subject Air Field Manual L. Dv. 16 contains the following passages:

In Paragraph 156 (which applies equally to rail and road routes).

In contrast, valuable results can always be obtained, if forces are available for the purpose, through the preventive destruction of particularly important and large manmade structures, which will take a long time to restore to operability (river bridges, etc....).<sup>1</sup>

In Paragraph 172.

Interdiction of the railroad system through the destruction of manmade structures at which a number of routes converge (river bridges, mountain passes) is particularly effective.<sup>2</sup>

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b. What Command Headquarters selected the Targets?

As a rule, the targets were selected by the commander of the units responsible for execution of the mission. In exceptional cases higher headquarters made the selection.

c. Examples of Target Selection in World War II.

Attacks against Bridges in 1945. (From the War Journal of the Air Force High Command).

1. Appendixes 57-59.      2. Appendix 60.

200

161 12 February 1945.

The use of flying missiles (Vergeltung K rper) by the 200th Bomber Wing against the Vistula River bridges is authorized by him (the Reich Marshal).

162 15 March 1945.

Reich Minister Speer (who in the past had favored execution of the Mistel composite aircraft operation) now propounds the following opinion to Hitler: "If the Russians stage a major offensive directed westward across the Vistula River, Operation Eisenhammer\* should be postponed if at all possible and the Mistel composite aircraft already held available for the purpose should be committed against the enemy-held Oder River bridges and possibly also against the Vistula River bridges, in order to prevent major Russian breakthrough." Hitler agrees.

11 April 1945.

With the opening of the Russian offensive, all out and sudden action with all available forces will start immediately against the enemy-held Oder River bridges. For this purpose the 30th Bomber Wing will be reinforced by the assignment of 20 Ju-88-S-3 aircraft or Ju-188 aircraft from the 1st Group of the 66th Bomber Wing.

12 April 1945.

Anticipating the Russian offensive east of Berlin

\* See page 200a.

200a

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\* Eisenhammer. Code name for an operation involving a sudden concentrated attack against the most important elements of the Russian armament industries and electricity supply sources. The attack was to be carried out by Mistel composite aircraft, namely a fighter plane mounted on top of an unmanned bomber plane loaded with explosives. Close to the target, the fighter pilot set the course for the attack run and then released the bomber in the direction of the target. (Note by Translator).

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The Sixth Air Fleet and Tactical Force Helbig are instructed to so dispose their forces that they can go into sudden all-out action against the Oder River bridges.

When participation by Air Force Command Northeast commences Tactical Force Helbig, responsible for direction of operations against the bridges in the eastern and western (Elbe River) segments, will pass under command by Air Force Command Southeast, and will attach a liaison officer to headquarters of the Sixth Air Fleet who will receive all requests for missions against the bridges within the zone of the Sixth Air Fleet.

14 April 1945.

1st Group, 66th Bomber Wing assigned under Tactical Force Helbig to operate against the Oder and Elbe River bridges.

15 April 1945.

In view of the failure of the attack by Mistel composite aircraft against the enemy-held Oder River bridges on the night of 14-15 April, the Chief of the Air Force General Staff has ordered that the 38 composite aircraft still operable are to be committed against other targets. The subject is under study.

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3. Critical Review.

a. The Statement and Assignment of Missions. Whereas in the early stages of the war attacks against road targets had frequently still been carried out specifically as road demolition attacks, emphasis shifted later to attacks against marching troops and vehicle columns on roads. This possibility had been provided for in Air Field Manual L. Dv. 16, Paragraph 145, as follows:

However, if these [fixed] targets are to be attacked while in use by mobile enemy forces (this applies to railroads, canals, highways, port installations and merchant vessels) the element of uncertainty now involved will necessitate special measures for reconnaissance and combat operations in the execution of the attack in order to inflict losses on the mobile enemy forces concurrently with the destruction of the fixed installations.

Where large sectors were involved it was only in exceptional circumstances, as was the case with the Oder River, that efforts were made to interdict the road system by destroying manmade structures.

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b. Target Selection. Whereas the German Air Force

in the early stages of the war also attacked small bridges

1. A method which proved highly effective in operations to prevent troop movements was to attack the entrances and exits to built-up areas, so that the debris from the destroyed houses would cover the roads.

164 and even road intersections or narrow roadways as interdiction targets, it became customary later in the war to select only large bridges for interdiction attacks.

## II. WARFARE AGAINST THE ENEMY SOURCES OF MILITARY POWER.

On this subject Air Field Manual L. Dv. 16 contains the following passages.

### III Paragraph 22.

Warfare against the sources of military power have an incisive impact on the course of an entire war. Such action strikes at the very roots of the enemy's will to fight and resist. In many cases, however, its effects materialize slowly, and a danger inherent in this type of air warfare is that its results might come too late to influence the operations of the Army or the Navy. Usually this type of air warfare will tie down large forces for a considerable time.

Unless the nature of the targets is such that operations against them are likely to have an early impact on the course of the war, warfare against the military sources of power and/or to interrupt the flow of military supplies and reinforcements to the front are advisable

1. See Appendix 61, which shows the targets selected for the 1940 campaign in Western Europe.

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only if the current surface operations on the ground or/ and at sea are intended solely to create conditions for a decisive operation; when an important phase of operations has ended; or if destruction of the enemy resources appears the only means by which a decision of the war can be brought about.

In Paragraph 21.

Warfare against the sources of military power thus might also be necessary during periods of coordinated action with ground and naval forces.

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In such case, however, the targets for attack must be so selected that the air operations will affect the operations of the ground and naval forces at the proper time.

Paragraph 145.

Warfare against the sources of military power is directed against all installations and measures of the enemy which serve to strengthen and increase the enemy military forces in combat.

Under this heading are included:

Manufacturing and other producing facilities

Food supplies and food supply installations

Import traffic and facilities



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Electric power stations

Rail and other traffic channels

Military replacement centers

Government and other administrative centers

The following orders are offered to exemplify operations  
in warfare against the sources of enemy military power:

Supreme Commander of Military Forces      Berlin,  
OKW Nr. 48/39 g. K. WFA/L (I)                      10 May 1939<sup>1</sup>

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Subject: Instructions Concerning Uniform Preparations by  
the Military Forces in 1939/40 against the Even-  
tuality of War (OKW Nr. 37/39 g.K. Chefs. WFA/  
L/I, 11 April 1939.

The attached "Principles for Economic Warfare and  
Protection of the Own Economy" are forwarded as Part VI  
of the "Directive." The Commanders in Chief of the three  
military branches are requested to ~~submit~~ report  
by 1 August  
1939 the measures taken pursuant to these principles.

S/ Adolf Hitler.

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Anlage VI zu OKW Nr 37/39 g.K.

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## VI

Directives for Warfare against the Enemy Economy (Economic Warfare) and for Protection of the German Economy.

## I. INTRODUCTION.

1. The principal participants in warfare against the enemy economy are the Navy and the Air Force. Their action is supported by sabotage activities (Counterintelligence Division of the Supreme Military Command). The mission might develop for the Army to increase the territories available to Germany by occupying enemy territories which are of especial importance for the German economy.

Preparations for <sup>combat</sup> measures of economic warfare are a responsibility of the Plenipotentiary General for Economy

The Supreme Military Command (Joint Operations Office\* in collaboration with the Economics Staff) is responsible for the uniform direction of all measures taken against the enemy economy. The same applies for all measures taken to protect the German economy.

2. In Parts II and III of the present directives principles have been stated for the conduct of economic warfare and defense in the event of Operations Grenzsicherung and Weiss. From these evolve the preparations

\* Wehrmacht Fuehrungs Stab, later designated Wehrmacht Fuehrungsstab (Joint Operations Staff) commonly referred to as the Wehrmacht Operations Staff.

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to be made by the three branches of the military establishment and by the Plenipotentiary General for Economy.

3. The essential condition for a uniform conduct of economic warfare is a uniform concept in the appraisal of the enemy economy.

For this purpose the following conditions apply:

a. The Supreme Military Command (Economics Staff) is responsible for the compilation of a consolidated "military-economic" appraisal of the countries concerned on the basis of data procured by itself, by the Foreign Branch/Counterintelligence Section, of the Supreme Military Command, and by the three branches of the military establishment. Close collaboration is essential for this purpose with the three branches of the military establishment, with the Foreign Office, with the Plenipotentiary General for Economy, and with all other agencies involved.

b. In collaboration with the Supreme Military Command (Economics Staff and Foreign Branch/Intelligence Section), the Army, Navy, and Air Force will secure data for their operations and will furnish to the Supreme Military Command (Economics Staff) contributions for use in the consolidated appraisal of the military economy of enemy countries.

II. Instructions for Operation Grenzschließung (Frontier Security).

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1. Attacks against the Enemy Economy.a. General. Operational Study Grenzsicherung

specifies only the protective measures to be taken at the beginning of a war. Over and beyond this it is essential for the Navy and Air Force in particular to make preparations for the immediate commencement of economic warfare. Such warfare will be directed primarily against Britain, and secondly against France. Here, Britain and France will be considered as one homogeneous economic unit in all fields in which an interchange of mutual economic support between them appears possible. The important point is not only to strike the original sources of military power but above all bottlenecks in the enemy economy.

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In all combat measures care will be exercised not to infringe the territory of neutral countries.

b. The Army. In collaboration with the Supreme Military Command (Economics Staff) the Commander in Chief of the Army will prepare for action designed to harass or destroy enemy economic and supply installations and facilities within firing range of the weapons committed for frontier defense.

In the event of an advance into enemy territory the higher level commands, in agreement with the

168 liaison officers attached to their staffs from the Economics Staff will decide which industrial and supply installations are to be spared destruction for later use. Very especial importance attaches to timely measures to salvage supplies of all types in occupied territories. Their salvage will be reported to the Supreme Military Command (Economics Staff).

169 c. Navy. Within its scope the Navy will prepare for warfare against British and French merchant shipping. According to the current political situation at any given time during peace and with due regard to the possible constellation of enemy powers, the legal and military aspects of the intended form of warfare on merchant shipping will be examined continuously in collaboration with the Foreign Office and adapted to currently anticipated developments.

The zones in which warfare against merchant shipping will be conducted will be established in discussions between the Navy and Air Force High Commands and reexamined continuously.

d. Air Force. Preparations will be made for offensive operations designed to cripple the enemy sources of food, raw materials, and manufactured supplies and to strike the enemy armament industries.

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In all such planning the aim will be, in cooperation with the Supreme Military Command (Economics Staff) and with the Commander in Chief of the Navy, to consolidate all efforts in concentrated attacks against those sources of economic power the loss of which will have the most telling impact on the entire military economy of the enemy.

In operations against enemy shipping routes it is of particular importance to insure that the targets for attack are selected in very close cooperation with the Navy High Command in order to secure a mutual concentration of effort by both branches of the military establishment.

.....

### III. DIRECTIVES FOR OPERATIONAL STUDY WEISS.

1. It is of importance to seize the Polish industrial installations in the least possible damaged condition.

For this reason, such installations will only be attacked if immediately necessary for military reasons.

2. For our military economy a quick occupation of the industrial regions of Polish Upper Silesia and Techen is important.

3. The Navy will take measures to completely prevent all movements of supplies to Poland by sea. In accordance with the current international situation and in

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cooperation with the Foreign Office the form of warfare against merchant shipping to be waged for this purpose will be decided. An important point here is in particular that of how to deal with ships sailing under the flags of neutral nations, and what to do about cargoes consigned to neutral ports but possibly intended for Poland.

4. For the protection of the German economy what has been said under the heading of Operational Study Granzsicherung essentially applies also here.

Der Oberste Befehlshaber der Wehrmacht                      Berlin  
OKW/WFA Nr. 215/39 g.Kdos. Chfs. Abt. L I 29 November  
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Directive # 9

Principles Governing the Conduct of Warfare against the  
the Enemy Economy.

1. In the war against the Western Powers Britain is the power supporting the will to fight and is the leading power among our enemies.

The defeat of Britain is the essential condition for final victory.

The most potent measures towards this end are those designed to cripple the British economy by dislocating it

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it at critical points.

2. Developments in the military situation and in our armament situation could within the foreseeable future create favorable conditions for comprehensive warfare against Britain's economic foundations. Timely arrangements must therefore be made to strike Britain a mortal blow in her economic power through the consolidation of suitable means of combat for attacks against the most important targets.

In accordance with special instructions the non-military means of economic warfare will be applied in action coordinated with the measures taken by the military forces.

3. If our Army (the original German text reads Heeres, which would mean of our army) has succeeded in defeating the Anglo-French operational Army forces and occupying a part of the Continental coastline opposite England, the mission of the Navy and the Air Force of conducting warfare to cripple Britain's economic power will predominate. Cooperation with the S and K Organization will be sought.



4. In such case the following missions, stated in sequence of importance, will develop for the Navy and the the Air Force in the uniform conduct of combat operations:

a. Combat action against the principal British ports of transit in the form of mining operations and measures to blockade the approach routes, and in the form of attacks to destroy the vitally important port installations and coastal locks.

Here, particular significance attaches to the use of mine-laying aircraft to mine ports on the west coast of England, in narrow channels, and in river estuaries.

b. Action to destroy shipping and the naval forces escorting and protecting that shipping.

c. Action to destroy British supplies, oil depots, and foods stored in refrigerated warehouses and grain silos.

d. Action to disrupt British troop and supply transportation to France.

e. Action to destroy industrial installations which are such that their loss would have a decisive impact on the military conduct of warfare. Of particular importance here is the destruction of key factories in the aircraft manufacturing industry and factories manufacturing heavy artillery, antiaircraft guns, ammunition

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and explosives.

5. The most important transit ports of Britain, which handle 95 percent of Britain's foreign trade and can only be inadequately replaced by other ports, are as follows:

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London	)	Important for the import and processing
Liverpool	)	of foods, timber, and oil.
Manchester	)	These 5 (sic) occupy a key position in
	)	the peacetime import traffic, handling
	)	58 percent of the entire volume involved.

Newcastle	Swansea	)
Elythe	Cardiff	)
Sunderland	Barry	)
Hull		)

The following could serve as alternate ports, but only to a limited extent and only for the handling of specific commodities:

Grangemouth	Holyhead
Leith	Bristol
Middlesborough	Belfast
Grimsby	Newport
Southampton	Galle
Glasgow	Dundee.

Constant supervision is essential to detect any possible diversions of traffic. Furthermore, it will be important to take measure which will progressively narrow down the outlets for British foreign trade and thereby enforce the diversion of traffic into areas within the

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striking range of our naval and air forces.

French ports will only be selected as targets for attack if their locality or functions bring them into the pattern of action to blockade Britain, or if they should serve as important ports of debarkation for troops.

6. In the case of ports which cannot be effectively mined, merchant shipping will be crippled by closing the port entrances by means of sunken ships, and action to destroy the vitally important port installations.

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It will be of particular importance here to destroy the large lock installations at the following ports:

Leith, Sunderland, Hull, Grimsby, London, Manchester, (ship channel), Liverpool, Cardiff, Swansea, Bristol, and Avonmouth.

On the west coast in particular these lock installations serve to regulate the water level in the ports, so that the transshipment of cargoes in such ports is largely dependent on them.

7. In preparing for the above operations the important point is

a. To constantly reexamine and supplement the data already available concerning British seaports and the installations and handling capacities, and concerning

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the British armament industries and the large supply depots.

b. To accelerate the development of methods by which mine-laying aircraft could also lay anchored mines.

c. To build up a reserve supply of mines to meet the large requirements and adapted in numbers to the operational capabilities of the Navy and the Air Force.

d. To coordinate in timing and area the actual combat action taken by the Navy and the Air Force.

Preparations will be made for the necessary action as soon as possible, and I request the Commanders in Chief of the Navy and of the Air Force to keep me currently informed on their plans and intentions.

I reserve to myself the decision as to when the re-  
are to be cancelled which are  
strictions/still valid for naval and air warfare in accordance with my former directives. The removal of these restrictions will probably coincide with the opening of our large-scale offensive.

S/ Adolf Hitler

S/ v. Trotha, Captain.

The sections which now follow will deal with the subject of warfare against the various categories of targets under the heading of sources of military power, with the exclusion of operations against railroads and other traffic channels,

175 which have been dealt with in Section IV above.

A. WARFARE AGAINST ARMAMENT INDUSTRIES.

1. The Mission as the Basis for the Selection of Targets.

a. Principles to be Observed in the Statement and Assignment of Missions. On this subject Air Field Manual

L. Dv. 16 contains the following passages:

176 In Paragraph 150.

Warfare against the industries producing the means of warfare holds out prospects of decisive success if the enemy has no possibility to replace lost production capabilities by imports or by means of the output from factories located beyond the effective range of attacking aircraft.

When attacking a production complex, the rule is to strike those installations or areas the loss of which would cause the collapse of the entire complex.

In the selection of targets it is important to consider whether a successful attack would affect the enemy fighting forces soon or only gradually. If the intention is to achieve an immediate impact on military operations, the targets must be selected accordingly.

In Paragraph 151.

In planning the type of attack to be staged, the

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determining factor will be whether action is intended against a number of separate targets distributed over a wide area or against an interdependent industrial region.

In Paragraph 152.

As a rule, operations against a large interdependent industrial area will take up considerable time, even if the individual attacks are directed exclusively against the vital points within the target area.

Circumstances might be such that the desired result can be achieved more easily through destruction of the installations supplying the area with electricity, gas, and water.

In Paragraph 153.

In some cases good results can be obtained through the destruction of those rail and waterway routes which are important for the outward transportation of the finished products from the area. However, quick results are usually difficult to obtain by this method because of the /the densely meshed nature of industrial rail systems and the consequent numerous possibilities to reroute traffic.

b. What Command Headquarters Stated and Assigned

the Mission? As a rule the mission was stated and assigned

176 by the highest levels of command, the Supreme Military Com-  
mand, or the Commander in Chief of the Air Force, since  
177 these commands alone had the necessary overall insight into  
what was required.

c. Examples of Mission Assignment in World War II.

(1) Orders by the Supreme Military Command.

Example One.

From Hitler Directive # 1, 31 August 1939.

For the conduct of warfare against Britain, pre-  
parations will be made for air warfare to disrupt .....  
(seaborne import traffic), the armament industries,  
<sup>1</sup>  
(troop movements to France).

Example Two.

From Hitler Directive # 21, Barbarossa, 18 December 1940: Cam-  
paign against Russia.

In order to be able to concentrate all forces in  
action against the enemy air forces and in action direct-  
ly supporting the Army, the enemy armament industry will  
not be taken under attack during our major operations  
[on the ground]. Such attacks, primarily against the  
Ural region, can only be taken into consideration after  
conclusion of our mobile operations.

Example Three.

From Hitler Directive # 45, 23 July 1942.

1. Appendixes 62-64.

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Owing to the vital importance of the mineral oil output of the Caucasus region for the continued conduct of the war, no air attacks will be directed against the oil producing sites and bulk storage tank depots in that region, or against the transshipment ports in the Black Sea, unless the situation in Army operations render such attacks inescapably necessary. In order to speedily deny the enemy any possibility of receiving oil supplies from the Caucasus, however, particular importance attaches to an early interdiction of the rail routes and oil pipelines used for the purpose, and to action serving to interrupt<sup>1</sup> sea route in the Caspian Sea.

*Example*

(2) Orders By the Commander in Chief, Air Force.

Example One (in the negative sense).<sup>2</sup>

Operational Study Weiss, 10 May 1939, Annex 6.

Instructions for Warfare against the Enemy Economy (Economic Warfare).

The important point is to seize the Polish industrial installations if at all possible in an undamaged condition. Therefore, they will only be attacked~~d~~ if a direct military necessity for such action exists.

1. Appendix 65.

2. Karlsruhe Document Collection.



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Example Two. (Instructions for the Strategic Assembly and Combat Operations of the Air Force); From Operational Study 1939.

Instructions for Operations against Poland, 1 May 1939.

- a. Combat action to establish German air supremacy.
- b. Action in support of the Army.
- c. Preparations will be made for a concentrated bomber attack, with all forces committed against Weiss [Poland] participating, directed at Warsaw (military installations and armament factories).

n More detailed instructions on this subject separately.

The Commander in Chief of the Air Force reserves to himself the decision concerning execution of this attack.

Unless unavoidable in the execution of the foregoing missions, attacks will be avoided against R. K. L. installations and against any installations which might be important for the German conduct of warfare, except with prior approval from the Commander in Chief, Air Force.

The same applies to attacks against the center of Warsaw City (Government and administrative offices).

Example Three.

From Directive # 4 by the Commander in Chief, Air Force, 23 September 1939, for the Second and Third Air Fleets.<sup>2</sup>

- a. 1. Since operations in the east are drawing to

1. Karlsruhe Document Collection. 2. Ibid.  
a close..

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a close.....

B. Air Attacks.

The missions of the Third Air Fleet (after authorization of attacks against targets in French territories) .....

A serious disruption of the French fuel supplies is not to be expected in view of the forces available for the necessary action against those supplies. In contrast, the Third Air Fleet will receive a list of industrial targets, which are to be attacked, even if only by small units, whenever conditions are favorable.

Example Four.

From Order by the Commander in Chief, Air Force, 26 November 1943.<sup>1</sup>

For the purpose of systematic operations against the Russian armament industries I intend consolidating under IV Air Corps Headquarters the bulk of all heavy bomber units committed in the eastern theater, which will be reinforced by special units with special capabilities of precision bombing.

The mission of these units will be to carry out destructive attacks against the Russian armament industries, in order to deprive the Russian masses of large numbers of tanks, guns, and aircraft before these can even reach

1. Karlsruhe Document Collection.

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the front, and through such action more effectively relieve the strain on our hard-pressed Army of the East than would be possible through air support operations on the field of battle alone.<sup>1</sup>

2. The Selection of Targets.

a. Principles to Be Observed in the Selection of Targets. Air Field Manual L. Dv. 16 contains the following passages on this subject:

In Paragraph 148.

In order to conserve forces it is therefore advisable to refrain from attacking the entire complex of targets constituting the sources of military power and to restrict the attack to the currently most vitally important elements.

These elements must be so selected that their destruction will result in the total collapse of the entire power source area of which they are a part.

In order to insure an economical use of available forces, total destruction will not be attempted if the desired results can be achieved through disrupting, harassing, or neutralizing attacks.

In Paragraph 150, Section 2, which again expressly confirms

1. Appendix 66 shows the results achieved in an attack of this kind in June 1943.

181 the above concept.

When attacking a production complex the rule is to strike those installations or areas the loss of which would cause the collapse of the entire complex.\*

b. What Command Headquarters selected the Targets.

As a rule the highest levels of command, namely, the Supreme Military Command or the Air Force High Command, which assigned the mission, at the same time specified the individual targets for attack and their priority sequence.

c. Examples of Targets Selection in World War II.

(Excerpt from "Luftoperationen im Nordseeraum 1939")<sup>1</sup>

In November 1939 plans of the German Air Force High Command provided for an attack against the British explosives factory at Billingham, which produces 90 percent of Britains output in explosives.

3. Critical Review of German Target Selection. It has been mentioned previously in this study, in the section on "Cooperation with the Army", that the bulk of German air power had been committed in operations of support for the Army, pursuant to orders from the Supreme Military Command.

1. Karlsruhe Document Collection, G V 1.

\*. The reader is referred here to what has been said in Section III on the subject of target selection.

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Contrary to the principles so clearly stated in Air Field Manual L. Dv. 16, attacks against the enemy sources of military power, which would have held out far better prospects of successful action, were launched only occasionally and then only in inadequate strength.

It was only on November 9, 1943 that the German Air Force High Command clearly stated<sup>1</sup>

that it could contribute more towards victory in the eastern theater if it would do its utmost to combat "the roots of the Russian aggressive strength, the Russian armament industries" instead of serving as artillery and using its bombers to place bombs in front of the infantry.

It was considered possible, through a careful selection of key point targets, to cripple up 50-80 percent of the Soviet manufacturing capacity, which, according to current estimates by German counterintelligence, definitely would have amounted to 3 500 tanks and 301 first line aircraft monthly.

Speaking in retrospective, the Commander in Chief of the Air Force stated in the study concerned that

With the opening of our summer offensive in 1942 our air force was again fully committed in a mission of direct support for the Army, and so it has remained

<sup>1</sup> Karlsruhe Document Collection: Lw. FueSt, K.S.F. II, "Kampf gegen die russische Ruestungsindustrie."