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TACTICAL PROBLEM II-1934-SR.

ORANGE

STAFF SOLUTION

by

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SECTION I

OWN MISSION

1. Own Tactical Mission.

(a) As the result of a strategic estimate just made, Admiral OC has arrived at the following strategic decision:

"To destroy the first considerable BLUE Force leaving TRUK, be decisive engagement, in order to interrupt BLUE's OAHU-MANILA line of communications".

The above decision and the tenor of his previous instructions define his tactical attitude, which must be vigorously offensive.

His Own Tactical Mission flows directly from the above considerations, and may be expressed as:

To destroy the first considerable BLUE Force leaving TRUK in order to interrupt BLUE's OAHU-MANILA line of communications.

(b) Summary of the Situation.

The afternoon's air reconnaissance has disclosed the presence of a strong BLUE naval force in TRUK, together with numerous convoy vessels. While the strength of BLUE is considerable, it is not unexpectedly so, nor is it great enough to warrant abandonment of the operation upon which we are embarked. There seems to be every reason to believe that, if BLUE will come out, we can bring him to action. It is evident that BLUE knows of our presence, and consequently that portion of our instructions, which limits to forty-eight hours the time available for this operation, comes into effect. Whatever action is undertaken must not commit us longer than the afternoon of 16 August.

Since TRUK is secure against a raid by ships or aircraft there is nothing we can do if BLUE remains in port.

We have already decided on preliminary operations which contemplate bringing our Main Body to a position 100 miles 40°

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from the entrance to NORTHEAST PASS at 0500, 15 August, early observation of the approaches to TRUK and of the harbor itself; and search to locate any enemy force leaving TRUK.

Details of these operations will be covered in an Operation Order.

We are now particularly concerned with the preparation of a Battle Plan for the decisive engagement of any considerable BLUE Force which may leave TRUK.

SECTION II

RELATIVE STRENGTH OF OPPOSING FORCES

1. General Factors.

Except for the HALL ISLANDS, lying about 50 miles to the northward of TRUK, and the LOSAP ISLANDS, lying about 50 miles to the east-southeastward of TRUK, the sea-area in which an engagement is likely to be fought has no navigational dangers and is very deep. The only available entrance through the outer reefs is NORTHEAST PASS, since all others are known to be closed.

The weather is fine and clear, no wind, sea smooth, barometer high, visibility high, and flying conditions excellent. The indications are that this fine weather will continue. While it is the season of the Southwest Monsoon we may expect light easterly winds.

Sunrise is at 0600 and daylight at 0530. There is no moon.

2. Enemy Strength.

(a) Composition, Disposition and Condition.

1. Air reconnaissance developed the following BLUE forces in TRUK:

5 BB, including 3 IDAHO Class, 1 ARIZONA and 1 OKLAHOMA.

1 CV, probably CV-4; certainly not CV-2 or CV-3.

5 CA of the CHESTER and PENSACOLA Classes.

3 CL, of the CL-43 type.

45 DDs including DL's.

11 SS (probably Subdivs Seven and eleven with additions)

2. The material tactical characteristics of BLUE vessels are tabulated in Annex A.

3. BLUE personnel are known to be brave, resourceful, and skilled; in air operations they are very proficient; and their individual initiative is well known. The preceding en-

gements in this campaign have not tended to reduce their morale and we may expect to encounter determined opposition.

4. The entire BLUE Force as reported is now in TRUK, with the entrance defended by mine fields and nets, covered by shore batteries, and probably with patrols off the entrance.

5. We must assume that BLUE is filled up with ammunition and supplies.

(b) Enemy Information of Our Forces.

The BLUE VP flight that sighted our fleet actually disclosed our full strength, although it may not be realized in TRUK. For further information regarding our movements and our tactical dispositions BLUE will have to depend upon his own service of information until sight contact is made between the two battle lines.

3. Own Strength.

(a) Composition Disposition and Condition.

1. Our force is composed of:

BatCrudiv One	3 CC (1-3-4)
Batdiv Two	4 BB (1-2-3-4)
Crudiv Six	4 CA (28-31)
Crudiv Five	4 CA (32-35)
Desron One	1 CL 16 12 DD Desdiv 1 (82-85) " 2 (86-89) " 3 (90-93)
Desron Two	1 CL 18 12 DL Desdiv 4 (1-4) " 5 (5-8) " 6 (9-12)
Desron Three	1 CL 15 12 DD Desdiv 7 (69-72) " 8 (72-75) " 9 (76-79)
CV-2	1 CV
Subron Four	8 SS, 1 AS, Subdiv 7I(1-5) " 20I(53-56-57)
Train	6 AO

2. The material tactical characteristics of the

ORANGE vessels are tabulated in Annex A.

3. Our personnel are skillful, brave, and well trained; their morale may be considered at least equal to BLUE; and in the use of all types of weapons we consider our forces equally proficient with the enemy.

4. Our Fleet is now some 200 miles to the Northeast of TRUK, and our plan of operations calls for us to be 100 miles distant and bearing 40° true from NORTHEAST PASS tomorrow morning at 0500.

5. Our ships are amply supplied with fuel and ammunition.

(b) Our Information of Enemy Forces.

For further information of the enemy we are dependent upon our submarines, and our surface and air scouting. Prompt and accurate information of his sortie is needed and we must get this for ourselves.

4. Relative Strength

(a) Submarines -

We have 8 of this type to 11 for BLUE.

Our 8 submarines are organized in two divisions; Division Seven of 5 boats, and Division Twenty of 3 boats. The boats of Division Seven have maximum surface speeds of 17 knots and sustained surface speeds of 14 knots; those of Division Twenty have maximum surface speed of 19 knots and sustained speed of 16 knots. Submerged speeds for all boats are 9 knots maximum for one hour and corresponding reduction for longer times. BLUE SS have maximum surface speed of 13 knots and submerged speeds for one hour of about 10.5 knots with corresponding reduction for longer submerged times. The maximum surface speed of our Subdiv 20 is about equal to BLUE's battle line speed of 18.5 knots, whereas BLUE SS are considerably slower

on the surface than ORANGE capital ships. In the submerged condition, BLUE has somewhat faster boats than ours.

The ORANGE submarines carry the Type G torpedo, and the BLUE the type F. BLUE has the greater number due to having more boats.

BLUE has a numerical superiority of about 3 to 2. In the battle area, when all boats are submerged, this is a decided advantage. On the other hand, our boats, if permitted to do so, can use their higher surface speeds to gain favorable positions for attack.

It is reasonable to consider the two submarines forces as about equal.

(b) Surface Vessels.

1. Numerical Comparison.

<u>ORANGE</u>	<u>Type</u>	<u>BLUE</u>
4	BB	5
3	CC	-
8	CA	5
3 (Desron Leaders)	CL	3
1	CV	1
24	DD	45
12	DL	

2. Battle Line Units.

ORANGE has 4 BB and 3 CC with a total life of 101.0, against 5 BLUE BBs with a total life of 84.8. Our capital ships are all armed with the 14"/45 gun, total number 72, of maximum range 30,000 yards; and BLUE mounts 58 14"/45 and 14"/50 guns, with a maximum range of 33,000-34,000 yards. Individually, the BBs of each side have about the same life, with a slight superiority in BLUE's favor. Our CC's, however, are much weaker in life than the enemy capital ships. The fire of our BBs and CCs cannot penetrate the side armor of BLUE until the range is closed to 15,000 yards, and deck penetration only occurs at about

28,000 yards. BLUE can penetrate the side armor of our BBs at 21-20,000 yards, and of our CCs inside of 30,000 yards at 90° to 19,000 for 45° ; and penetrate the deck armor of both BBs and CCs outside of 24,000 yards. Target angles for BLUE of 75° and 60° are of material assistance in reducing damage at ranges under 18,000 yards. For ORANGE advantage is gained by presenting target obliquity of 60° from 30,000 to 27,000 and of 45° from 27,000 to 18,000 then 45° and 60° are equally effective. To both sides plane spot is equally desirable above 20,000 yards. Our numerical superiority gives us a natural concentration with a corresponding obligation on the part of BLUE to divide fire with two of his ships. The resulting damage inflicted under assumed conditions is shown on Annex B, where it will be seen that ORANGE has the advantage from 30,000 to 28,400 yards regardless of target angle. An advantage from 24,500 to 18,000 presenting a target obliquity of 45° and decided advantage under 18,000 yards if BLUE presents a 90° target obliquity. BLUE has the advantage in the range band 34-30,000 yards where ORANGE is out-ranged, but a decisive result at this range is difficult to obtain, and an advantage in range-bands 28,400 - 24,500 and 21,000-17,600 yards; except if ORANGE presents a target obliquity of 60° . The maximum battle line speeds will be 18.5 knots for BLUE and 20.5 knots for ORANGE, except that our BatCrudiv One can maintain 24 knots and is capable of employment as a fast wing. ORANGE battle line units carry torpedoes. BLUE battle line carry none.

3. Light Forces.

BLUE has 5 CA, 3 CL and 45 DD to our 8 CA, 3 CL and 36 DD and DLs. Each side will likely employ some destroyers for anti-submarine screening, one squadron.

In the cruiser class there are various types in each Fleet: ORANGE has 4 ships of 10,000 tons with 8" guns, 4 ships of 7100 tons with 8" guns, and 3 ships of smaller size with 5.5" guns, ordinarily employed as destroyer squadron leaders. BLUE has 5 ships of 10,000 tons with 8" guns, 3 ships of 9,600 tons and 6" guns.

Our Crudiv Six, composed of 4 MYOKOS is ship for ship the most powerful single division of cruisers present. It is outranged by BLUE CAs from 31,000-34,000 yards.

Our Crudiv Five composed of 4 KAKOS is ship for ship inferior to BLUE CAs and is outranged beyond 27,000 yards.

BLUE's CL-43 class are powerful 6" gun cruisers more heavily armored on side and deck than our CAs, having a range equal to our KAKO class and a life superior to this class, and about equal to our MYOKO class. Ship for ship they are decidedly superior to our KAKO class at ranges under 25,000 yards. They are worthy opponents of our MYOKO class within their range. Our squadron leaders CLs-15, 16 and 18 are singly no match for any BLUE cruiser present and any two in concentration against one BLUE CL are inferior.

Summing up the cruiser situation, we find that the five BLUE CAs are superior to our four MYOKOS at all ranges. That from twenty one to twelve thousand yards the BLUE CLs are superior to our four KAKOS, inferior at other ranges. Our destroyer leaders while weak, if used as cruisers would increase our relative cruiser strength somewhat, but this would divert them from their assigned duties. BLUE is superior in cruiser strength.

The destroyer strength of BLUE carries his main torpedo threat, for here he has about 550 torpedoes distributed in some 45 boats. We carry a weaker torpedo armament in our own destroyers, but our boats are more heavily gunned. The speeds of the two destroyer forces are about equal. BLUE will be able to form at least two powerful attack squadrons, and if he gives

up anti-submarine screening, a third squadron may be formed. To oppose this we can muster but 36 DD, and then only by releasing all our anti-submarine screens for capital ships and carriers. Numerically, BLUE is superior about 4 to 3 and has the advantage in this type.

(c) Aircraft.

1. Numerically, the aircraft by types in the two fleets are as follows:

<u>ORANGE</u>	<u>Type</u>	<u>BLUE</u>
16	VF	18
16	VB	18
14	VO	15
32	VS	50
24	VT	18
0	VP	6
<u>0</u>	<u>VJ</u>	<u>4</u>
102	Total	129

This gives BLUE a superiority in numbers of about 5 to 4.

2. In types, it will be seen BLUE has a wider diversification than ORANGE, and is superior in every type, except VT. In detail, a comparison shows the following:

VF, VB, VO's - In these types - practical equality exists.

VS's - ORANGE has but 32 to BLUE's 50 which makes him Superior about 5 to 2. This type of plane will be very useful in tactical scouting and may also be employed in defending carriers and spotters. BLUE's superiority here is important.

VTs - ORANGE is superior in the ratio of 4 to 3.

VPs - ORANGE has none; BLUE has about 6. This type may prove very valuable as it will be operating from a shore base and its great radius of action makes it very effective for scouting and bombing.

VJs - ORANGE has none; BLUE has 4. These planes are useful for reconnaissance and anti-submarine work, and for radio relay work.

5. The carriers of the two forces are important factors in the operations, and each has one such ship.

BLUE CV-4 is of intermediate size, 29 knots speed, unarmored, equipped with 8 5"/25 guns and heavy machine guns, and a life of 5.6. She carries one squadron of each of the following types: VF, VS, VB, VT and 4 VJ planes. The main BLUE air strength is concentrated on this ship.

ORANGE CV-2 is a converted battle cruiser of large size, 28.5 knots speed, good protection, life 12.8 and powerfully armed against surface craft and aircraft. She carries our main air strength of 15 VF, 24 VT, 16 VS and 16 VB.

6. Factors of Strength and Weakness.

(a) From the previous discussion, the chief elements of strength and weakness of the two fleets may be tabulated as follows:

<u>ORANGE</u>	
<u>Strength</u>	<u>Weakness</u>
Superior fighting strength of battle line at ranges under 24,000 yards.	Individual weakness of CCs. Battle line outranged between 30,000 and 33,000 yards and inferior between 24-28,000 yds.
Superior speed of capital ships. Battle Cruiser type suitable for employment as a fast wing.	Inferior in light forces. Numerically inferior in submarines.
Superior surface speed of submarines.	Inferior in aircraft.
Initial position gives initiative in seeking sun and weather gauge.	

BLUE

Strength

Weakness

Individual strength of battle line units.

Battle line outranges enemy by 3000 yards at 30,000 yards.

Superior in light forces.

Superior in number of SS.

Superior in aircraft.

Protected harbor close at hand and possibility of using shore based aircraft.

Inferior fighting strength of battle line at ranges under 24,000 yards.

Speed inferiority of battle line.

Slow surface speeds of SS.

(b) Fighting efficiency, tactical skill and morale of personnel must play an important role and the relative strength of these factors will be determined on the field of battle.

SECTION III

ENEMY'S PROBABLE INTENTIONS

1. Enemy Mission.

(a) In pursuance of his strategic offensive, BLUE is planning a Northern advance but cannot undertake extensive operations in the main theatre of war until his damaged ships are repaired and his supplies replenished. With the exception of fuel, BLUE is dependent upon his OAHU-MANILA line of supply for the maintenance of his fleet in the WESTERN PACIFIC and for materials to repair damaged vessels. This line of supply utilizes TRUK as a focal point, where the strong escorting forces are based and where East and West-bound convoys exchange escorts. In view of the importance which the BLUE High Command attaches to this line of supply, it may be deduced that the BLUE Commander engaged on Escort duty has a Strategic Mission somewhat as follows:

To safeguard convoy in order to ensure BLUE Fleet supplies,

and his Strategic Decision will probably be of the following nature:

To drive off or destroy any threatening enemy forces by sortieing at earliest time and by engaging decisively with all available forces to safeguard convoy.

(b) The ORANGE Force sighted off TRUK is a menace to this line of supply, and the large number of merchant ships now in port can not proceed in safety until this menace is removed. BLUE will not know our Fleet is committed to an early return home, and will desire a prompt removal of this obstacle to the rapid movement of his convoys.

(c) His tactical attitude will thus be offensive.

(d) His Tactical Mission can be derived directly from the strategic decision noted above, and may be expressed as:

"To drive off or destroy any threatening enemy force in order to safeguard the convoy."

2. Courses of Action Open to the Enemy.

(a) Before approaching the problem of the various ways in which BLUE can apply his elements of tactical strength to accomplish his mission, it is in order to examine the general courses of action BLUE can follow. To accomplish the task of destroying or driving off the ORANGE Force, BLUE can act

1. To fight defensively.
2. To fight offensively.

With consideration of Course I, it would involve (a) awaiting attacks by ORANGE Force. This could be by remaining at TRUK. But the early arrival of Convoy Seven at Manila may be vital or (b) Sailing with convoy Seven and defending it en route against attacking forces. This involves accepting the handicap of action while hampered by a slow moving convoy - with the possible resultant damage to the convoy even if BLUE is victorious and complete destruction of convoy if ORANGE is victorious. Further, unless the convoy guard for the eastbound convoy were removed from its duties for a long period of time, BLUE would have to face the enemy with less than full strength. Either convoy guard is too weak to defeat ORANGE Force. It would seem that BLUE has no alternative to keeping his combatant forces concentrated until a decision has been reached. This may be done by combining the convoys and proceeding to Manila. In this case the size of the convoy to be defended is increased and even a greater degree of immobility incurred and a larger and even more valuable convoy subjected to the inevitable hazards of damage or destruction.

What are the advantages of this course?

1. If successful the most economical in point of time, the earliest arrival at MANILA of this vital convoy.

The disadvantages are:

1. Combatant Force hampered in its movements and actions by the presence of a large slow moving convoy. With these forces, this is vital.
2. Almost certainty of damage to and possible destruction of convoy.

Course II To fight offensively, would involve seeking out the enemy and taking the fight to him.

The convoy would be left in the security of a base, with the combatant force interposed between the enemy and the base. The entire combatant force of both convoy guards plus the base forces could be used. The combatant force is free to maneuver. This is important in keeping the range open. All of these considerations are advantages. The only disadvantage that occurs to me is that it is not the most economical in time. Is this of importance? It could be - but it is believed that the time involved in Course II would be but little more than in course one - and that this additional time is not vital, certainly it is not so much so as to outweigh the disadvantages incurred. Course I is discarded and Course II is adopted.

Course II. Further consideration. BLUE may

1. Make attacks of attrition, with submarines, light forces and aircraft; or
2. Seek a general engagement with his whole force.

(b) Should BLUE decide to make attacks of attrition, using submarines, light forces and aircraft, he is committed to a form of battle which will consume valuable time, dissipate his efforts, and probably produce inconclusive tactical results. Such action on BLUE's part might succeed in preventing our bringing him to action in a general engagement, and deny us an opportunity to damage his capital ships. It would further defeat our object of causing a serious interruption of the BLUE line of supply and since we must begin the return to home waters within 48 hours. However, BLUE does not know of the limited time available to us, and we do not know how much delay BLUE can afford in his convoy arrival. We do know that its early arrival must be of importance to BLUE. We must be prepared for BLUE plans of attrition, and make plans to meet them. Also we must have plans to meet the BLUE Force now in TRUK in a general engagement.

(c) On the basis that a general engagement will take place, we will examine into the ways in which BLUE can employ his strength factors to his best advantage. We have decided that BLUE would most probably leave his convoy in the security of his Base until the issue were settled. The factors in BLUE's favor are superior battle line fighting strength in the extreme and long range bands, together with superiority in Light Forces and aircraft, and a defended port near at hand for damaged ships.

In a general engagement BLUE has the following courses of action open to him:

1. To seek action at decisive ranges at once by closing as rapidly as possible to range band 27,000 to 24,000 yards.
2. To fight initially in extreme and favorable long range bands, then to close to decisive ranges.

3. Analysis of Enemy's Courses of Action.

(a) Course 1: The conception of this course for BLUE is that he is willing to accept engagement between battle lines at any range relying on his ability to inflict damage on us at a greater rate than he absorbs it. He may establish the engagement on approximately the same or opposite courses while persistently endeavoring to push in to decisive ranges.

Aggressive action on the part of his aircraft and submarines to reduce our strength or speed can be expected.

Attacks by his surface light forces may be expected to be launched against our battle line when circumstances are favorable.

From BLUE's point of view this course of action commits him to bringing his heavy ships under a more effective fire at certain ranges which ORANGE may choose than he can deliver in return.

(b) Course 2. The conception of this course for BLUE is that he will seek initially to prolong the action in the extreme and long range bands in which he holds the gunnery advantage and to create favorable opportunity for attacks by his submarines, air and light forces in order to gain an initial advantage before closing to decisive ranges. Plane spot is almost essential to BLUE at the long ranges contemplated and we may expect him to make a big effort for its security. Likewise it is dependent on good visibility so far as gunnery is concerned. Weather indications at the present time presage favorable weather with high visibility for the morrow.

4. Enemy's Probable Intentions.

From the foregoing discussion I conclude that Course 2 offers BLUE advantages that he will not neglect and that his General Tactical Plan will probably be in substance as follows:

"To bring ORANGE Force to action, by sortieing at earliest time without convoy, by engaging initially at extreme and favorable long range bands while employing his air, submarine and light forces to reduce our capital ship strength and speed and when favorable opportunity has been created to close to decisive ranges, in order to destroy threatening enemy forces.

As an alternative Course for BLUE we assume an action of the type discussed as Course I.

To carry out the above, we assume BLUE will -

- (1) Deploy submarines across our advance to attack our heavy ships.
- (2) Attack our battle line and carriers with his VB and VT and VP flights.
- (3) Defend his own plane spot and attack our spotting planes.
- (4) Use his destroyer superiority to drive home attacks on our battle line.
- (5) Support his destroyer attacks with battle line gunfire at ranges of about 25,000 yards and with cruisers.
- (6) Close the battle line gun range to about 18,000 yards until our capital ships are destroyed or forced to retire.
- (7) Regulate his approach so as to avoid sun glare disadvantage should action appear imminent in the early morning and avoid precipitating the action far from TRUK.

SECTION IV.

COURSES OF ACTION OPEN TO ME.

1. Appreciation of Own Mission.

(a) Our Mission is "To destroy . . . the first considerable BLUE Force leaving TRUK in order to interrupt BLUE's OAHU-MANILA line of communications."

Our Task is clear: to destroy. The destruction of escorts will render convoys immobile.

The first considerable BLUE Force leaving TRUK, allows some latitude in deciding what constitutes a "considerable" force. Our presence being known, it is not likely BLUE will send out weak forces to be destroyed piecemeal. We can conclude the exit of any force of capital ships, or of strong light forces, will warrant action on our part to destroy it, probably resulting in a general engagement.

Since our letter of instructions requires our return home within 48 hours after discovery, and since we have been discovered, prompt action on our part is demanded to force BLUE to fight once he comes out.

(b) To accomplish our task we have to rely on:

Our superior number of capital ships, superior battle line speed, and strength at certain ranges. Our CC-type capable of employment as a fast wind and the coordination and skillful use of all forces in the battle area.

2. Courses of Action Open to Me.

(a) Our mission dictates one general course of action "Decisive Engagement". Under this General Course, the following courses of action will be considered:

1. To delay action by using our superior speed to hold off decisive engagement between the battle lines while giving our light forces, submarines and airforce opportunity to reduce BLUE's strength or otherwise create a situation more favorable to us.

2. To force action at ranges favorable to our battle line by employing our superior speed to gain these ranges and our light forces initially in defense of our battle line followed by a general attack with all forces at close range and favorable target angle.

Analysis of Courses of Action Open to Me.

(a) With the exception of our submarines, in which arm we possess an advantage in type and in speed, our light forces and aircraft are in a relatively disadvantageous status with regard to BLUE. Our cruiser strength is not sufficiently powerful to alone support our destroyers, our destroyers are too few in number to form powerful attack units unless the capital ships and carriers are left unscreened against hostile submarines, and our aircraft are inferior in numbers and types, especially the large flights of bombers required in such operations. In the face of the opposition to be encountered from BLUE's light cruisers, destroyers and aircraft and the superior fighting strength of his battle line in the extreme and long range bands, such a Course of Action offers little prospect of success, since it endeavors to employ our weakest tactical elements against outstanding strength factors of the enemy. There is no assurance such an effort on our part would produce results and the time consumed might easily be prohibitive of further action on our part.

(b) On the other hand, to force action with all forces brings into the battle area our full fighting strength and enables us to give effective employment to our own outstanding factors of tactical strength. In point of view of time, it is the most economical; and as we are already tactically concentrated, such a course lends itself readily to directive control. BLUE has a strong force in TRUK and should we fail to bring against him all available forces, we run the risk of defeat in detail. With our speed advantage, though slight, we can seize the initiative and force an action upon BLUE. This will accord

with our accepted tactical attitude, and we can reasonably expect to inflict serious damage to some of his battleships, thus fulfilling one of the requirements of our letter of instructions. That we shall suffer losses, particularly in light forces and aircraft, is to be expected, but some damage can be accepted provided we injure the enemy in greater degree. This Course of Action offers us a chance to oppose BLUE's superiority in light forces with our fast and mobile battle line units, and meets his probable and alternative courses of action with our maximum strength. Our objective in a fleet battle must be the BLUE BBs, since that is the backbone of his combatant strength as well as of the entire escort system centered upon TRUK. We have seen that our own capital ships possess a fire superiority over BLUE's in certain range bands and by presenting favorable target obliquities with an increasingly advantageous ratio as the range decreases below 18,000 yards. The superior speed of our capital ships furnishes the means whereby our superior gun power can be brought to bear at any range we desire. While inferior to BLUE in air strength, we are powerful enough in this respect to severely dispute control of the air. To this end we may employ it in an entirely defensive role or assign it offensive tasks. We may retain our CV in the immediate battle area or dispose it at a distance to launch scouting flights and bombing attacks against the enemy carrier and other heavy ships. Our other weapon of offense lies in the torpedoes carried by all classes of surface ships but chiefly concentrated in the destroyer force. Opportunity to favorably employ this weapon must be seized. We have the initiative in maneuver for the sun and probable weather gauges.

To force action at ranges favorable to our battle line means that we must close the range rapidly to ranges under 24,000 yards, and that we must impose a target obliquity of less than 90°, preferably of 45°. This course of action has the advantage of coming to close grips immediately with the enemy and

allowing him no chance to escape. Until the gun range is lower than 20,000 yards plane spot is very important and our comparative weakness in the air makes it doubtful if we could maintain plane spot throughout a protracted engagement at long range. However, if we can have plane spot in the earlier stages while we are closing the range, we can afford to lose it later when we need it less. Our bombing and torpedo flights should be assigned offensive roles to realize their value and such attacks should if possible be coupled with surprise. In advancing upon the enemy we must cross a possible hostile submarine area and will have to continue anti-submarine measures longer than usual. The attack of BLUE destroyers is facilitated somewhat by such a course of action, but by massing our light forces in the van we offer an effective counter. All our forces will be brought into the engagement under this method of fighting and all our strength exerted in a powerful effort. This course of action utilizes our chief strength factor, the powerful gunfire of our surface ships and tends toward Unity of Action and Coordination of Effort against our objective, the Enemy battleships.

SECTION V

THE DECISION

We express the selected Course of Action as our Decision in the following form:

To engage decisively at ranges favorable to our battle line
by

- (a) Closing rapidly to ranges under 24,000 yards
- (b) Employing light forces supported by battle cruisers to break up attacks of enemy light forces.
- (c) Launching bombing and torpedo attacks with aircraft and submarines against the enemy battle line and CV.
- (d) A coordinated attack with all forces at close ranges and favorable target angles; in order to destroy BLUE Force.

SECTION VI

SUPPORTING MEASURES

(a) Formulation of Tasks

Our decision involves the following:

- (1) Anti-Submarine operations
- (2) Operations of own submarines
- (3) Offensive and defensive operations of aircraft
- (4) Bringing the enemy battle line under effective fire at once, and closing rapidly to ranges under 24,000 yards.
- (5) Defense of battle line against enemy destroyer attack
- (6) Close engagement with all available forces presenting target angles unfavorable to enemy fire.
- (7) Pursuit to complete the victory.

Considering these operations in detail, we find they involve the following:

- (1) BLUE has in TRUK about 11 submarines of the S-type. Their slow surface speed will hold down his fleet speed and we may expect his SS to lead the sortie so that they may be disposed in advance of his main body in cruising disposition. They will be stationed in the general direction of his advance either on a line, on the arc of a circle or in groups on either flank. Running on the surface as long as possible, they will attempt to reach favorable positions from which to attack their objectives, submerging only when driven down. Our capital ships, carrier, or large cruisers are likely objectives. We shall want to know the general position of BLUE SS in his cruising disposition so that maneuvers may clear submarine water; for this purpose, we may employ air patrols prior to deployment; and DD anti-submarine screens in the engagement until the situation dictates their

release for attack. High speed maneuvers are essential to safety in submarine areas, even at some expense to gunfire.

For this operation we shall need:

Air patrols 8 VS

Anti-submarine screens 12 DD

High speed maneuvers by capital ships

- (2) In regard to the operation of our own submarines, their task, once they have gained favorable positions for attack, is to damage the enemy, preferably battle line units, to the maximum extent of their weapons. Since the enemy will probably employ retiring tactics initially it might work to our advantage to have some submarines seek attack position such as will curtail his freedom of maneuver in this respect. Suffice it here to say that submarines will be given initiative in the accomplishment of their battle task and that orders governing their disposition for approach and deployment will be based on the foregoing considerations and in respect to the probable Fleet Axis. This involves all 8 submarines.
- (3) These air operations involve our whole air force less observation squadrons and planes held on submarine patrol. Our carrier borne aircraft must naturally be assigned to this task. The surest way to prevent enemy bombing attacks against us would be to destroy the flying decks of the BLUE carrier before his bombing flights can take off - yet it would be unwise to assign the carrier as the only objective particularly since it may not be definitely located in time to launch so favorable an attack, and also it may be possible for BLUE to operate some planes from an improvised air field at TRUK. Our carrier borne planes will all

be equipped with bombs or torpedoes and their objective will be enemy heavy ships - meaning carriers, battleships and heavy cruisers. It would seem advisable not to confine our carrier to an area in the immediate vicinity of the battle line. Its disposition in an unexpected location at a distance from our own battle line may introduce initial advantage and surprise.

- (4) Bringing the enemy battle line under effective fire at once and closing rapidly to ranges under 24,000 yards, requires high speed maneuvers and a late deployment so that our battle line gun power may be brought as close to its objective as possible, supported by some means to hold BLUE from maneuvers to keep the range open. The first requirement indicates an approach formation which will admit of heavy gunfire from our capital ships while deployment of the light forces is in progress. The second requirement involves some action on our part to prevent BLUE from turning away with his battle line, or otherwise to reduce his freedom of maneuver. The best way to hold the BLUE battle line is to reduce its speed by underwater damage, and this can be accomplished by torpedo attacks from our submarines and our torpedo plane squadrons. If we can bring our SS into the battle area and preferably on the unengaged side of BLUE heavy ships, it will discourage him from turning away. Similarly, torpedo (and bombing plane) attacks, launched against his battle line from various directions and timed so as to follow the opening of gunfire, will assist in keeping BLUE battle line where we can hammer it with heavy guns. The use of smoke at this stage might prove advisable for ORANGE to obscure his maneuvers and overcome BLUE's gunnery advantage. To this end an attack from windward is suggested. In closing, our gunnery advantage in the

30-28,400 yard range band must be exploited to the fullest extent consistent with our general plan of closing rapidly to decisive ranges.

Our fire superiority can best be established by using our four BBs as a battle line to engage, ship for ship, with the four rear enemy BBs, and by using our three CCs as a fast wing, concentrating fire upon the leading BLUE BB. Placed on the same range circle as the battle line units and some 10 or 15 degrees on the engaged bow, this formation can dominate the area in the van with its 14" guns. While fast wing tactics more often than not result in deconcentration, yet if the C-in-C himself takes command of the Fast Wing such tendencies can be checked at once and a proper tactical concentration maintained.

This operation involves our 4 BBs and a Fast Wing of 3 CCs, supported by other types as previously discussed.

- (5) Defense of battle line against enemy destroyer attack requires us to break up such attacks when they threaten. This means we must establish an early fire superiority in the flank areas, probably chiefly in the van. For this purpose we have our strong Crudiv Six and our Crudiv Five, which can be deployed from a central approach station. We cannot afford to leave our rear entirely open, for our speed margin in the battle line is slim. Our attack squadrons must be divided between the two flanks, and one of the squadron leaders will be left to strengthen whichever flanks we designate. In addition, our van flank can count on some gunfire support from our Fast Wing, to be employed particularly against BLUE cruisers.

The maximum strength we can develop on the van flank would seem to be:

Crudiv Six	4 CA
Crudiv Five	4 CA
CLs 15 or 16, 18	2 CLs
4 Desdivs	16 DDs

and on the rear flank we will have:

CL 16 or 15	1 CL
2 Desdivs	8 DD

- (6) Close engagement with all available forces, presenting target angles unfavorable to enemy fire means pushing in with all forces acting in mutual support. ORANGE can hold the gunnery advantage below 24,000 yards if he presents target angles near 45° . At this stage it should be practicable to release our destroyers from anti-submarine duties to join our attack squadrons. It seems doubtful that we can count on much assistance from the air force at this stage of the action, since its effort will probably have been largely expended. However, some bombers and torpedo planes may be made available to lend their effort at this time. Our cruisers, battle cruisers, and battleships will have torpedoes available to use should opportunity offer.
- (7) Pursuit to complete the victory means we must have a Plan giving to all task groups their objectives. From the foregoing the following tasks are formulated:

1. Bring enemy battle line under effective fire at once and close rapidly to ranges under 24,000 yards. Engage closely upon signal for General Attack and maneuver to present target angles near forty-five degrees at ranges below 24,000 yards.
2. Concentrate gunfire on nearest flank of enemy battle line. Support light forces in the van against enemy light forces. Avoid isolation from own battle line and conform in general to its movements.
3. Defend own capital ships against attack by Enemy light forces. Patrol with aircraft against enemy submarines and mines. Attack enemy battle line with torpedoes. Lay smoke screens and curtains.
4. Scout tactically. Attack enemy heavy ships with bombs and torpedoes. Seize opportunity to coordinate plane torpedo attacks with torpedo attack by surface forces. Deny Enemy plane spot and protect own spotting planes. Defend own battle line and carrier against enemy air attacks.
5. Attack enemy heavy ships at every favorable opportunity preferably the battle line from the unengaged side.
6. Follow up and complete the victory.

(b) Command Organization

Tasks will be assigned as follows:

<u>Battle Line</u> , assigned Task		1
<u>Fast Wing</u> ,	" "	2
<u>Light Forces</u>	" "	3
<u>Aircraft</u>	" "	4
<u>Submarines</u>	" "	5
<u>All Units</u>	" "	6

Units are assigned to Task Groups as follows:

- (1) Battle Line
Batdiv Two
Desdiv Three
- (2) Fast Wing
Baterdiv One
Desdiv Six
- (3) Forces in the Center
Crudiv Five, Six
Desdivs One, Two, CL-18
- (4) Forces on Right Battle Flank
Desdivs Seven, Eight, CL-15
- (5) Forces on Left Battle Flank
Desdivs Four, Five, CL-16
- (6) Submarines
Subdiv Seven, Twenty
- (7) Carrier Division
CV-2, Desdiv Nine

Task Group Commanders will be designated as follows:

- (1) Battle Line, Vice Admiral OD in BB-4
- (2) Fast Wing, Commander, Second Fleet, in CC-3, OTC.
- (3) Forces in Center, Vice Admiral OCA in CA-32

- (4) Forces on Right Battle Flank, Rear Admiral OCB
 - (5) Forces on Left Battle Flank, Captain OCD
 - (6) Submarine Divisions, Rear Admiral CCS in I-1
 - (7) Aircraft Squadrons, Rear Admiral OCV, in CV-2
- (On deployment Vice Admiral OCA will assume command on the Battle Flank he joins).

(c) Coordinating Measures

OTC will initiate attack of light forces which will normally be withheld until close action is ordered. Smoke may be used at the discretion of light force commanders when attacking but otherwise only an order of O.T.C. Pursuit will be initiated by the O.T.C. who will direct the plan to be used.

(d) Train

None present (remain at rendezvous).

(e) Special Provisions

Use minus ten time Rendezvous X-ray. Use Battle Radio Frequency Plan. The following contributory plans are required and will be prepared.

Battle Disposition

Approach Disposition

Pursuit Plan

This plan and annexes will be distributed by special guard boat as an annex to Operation Order No. 2. Commander ORANGE Second Fleet in CC-3 with Fast Wing will act as O.T.C.

SECRET

ORANGE Second Fleet
CC-3, Flagship

Operation Order
No. 2

Lat. 9°-50' N.,
Long. 154°-00' E.
14 August 1933; 1700.

TASK ORGANIZATION.

- (a) Subron, Rear Admiral OCS.
Subdivs Seven, Twenty, less AS-One.
- (b) Forces in Center, Vice Admiral OCA.
Crudiv Five, Six.
Desron One less Desdiv Three
- (c) Forces on Right Flank, Rear Admiral OCB.
Desron Three less Desdiv Nine.
- (d) Forces on Left Flank, Captain OCD
Desron Two less Desdiv Six.
- (e) Fast Wing
Batcrudiv One.
Desdiv Six.
- (f) Battle Line, Vice Admiral OD.
Batdiv Two.
Desdiv Three
- (g) Cardiv, Rear Admiral OCV
CV-Two
Desdiv Nine.

1. Air reconnaissance developed following BLUE forces in TRUK: five BB, five CA, three CL, about forty five DD, one CV intermediate size, large merchant convoy and tugs, about twelve SS. Believe BLUE combatant forces will sortie NORTHEAST PASS prior daylight fifteen August and seek engagement. Our forces must depart for home bases not later than afternoon sixteen August.
2. This force will destroy the first considerable BLUE force leaving TRUK by decisive engagement, in order to intercept BLUE's OAHU-MANILA line of communications.
3. (a) Subron scout toward NORTHEAST PASS proceeding immediately. Attack enemy heavy ships. By five hours fifteen August gain stations by groups in open formation, thirty five miles on bearings one eight five and two five five degrees respectively from POINT AFIRM, thereafter take fleet course and speed.
(b) Forces in Center develop contacts, avoiding action with superior forces; screen Battle Line; patrol with aircraft against submarines and mines after daylight.
(c) Forces on Right Flank screen Battle Line.
(d) Forces on Left Flank screen Battle Line.
(e) Fast Wing support screening forces.
(f) Battle Line bring enemy to decisive action.
(g) Cardiv locate enemy and scout tactically initiating operations fifteen August five hours from approximate position seventy five miles northwest of NORTHEAST PASS. Use Aircraft Scouting Plan Number Six. Attack enemy heavy ships with bombs and torpedoes at earliest time. Proceed at dark today.
(x) At five hours fifteen August, Fleet Guide (BB-Four) will pass through POINT AFIRM one hundred miles

bearing forty degrees from NORTHEAST PASS, on fleet course two two zero at fleet speed fifteen in Cruising Disposition Number Three. O.T.C. will maneuver to hold the weather gauge. At daylight, zero five-thirty, fleet commence zigzag in accordance with Zig-Zag Plan Number Four. Early information BLUE sortie vital. Battle Plan Number One will be placed in effect by signal from O.T.C.

4. Train at Rendezvous Xray.
5. Commander Second Fleet in CC-Three with main body. Maintain radio silence, except for transmission of important information and to report contacts. Minus ten time. Rendezvous X-ray: Latitude Eleven degrees Longitude Fifty three degrees. Annexed plans are effective.

OC
Vice Admiral
Commander Second Fleet.

Annexes:

- A. Cruising Disposition No. Three
- B. Aircraft Scouting Plan No. Six
- C. Communication Plan "B"
- D. Battle Plan No. One

Distribution:

By boat to Unit Commanders and
Commanding Officers

OKA
Commander,
Flag Secretary.

ANNEX "D" to OPERATION ORDER NO. 2

SECRET

ORANGE Second Fleet,
CC-3, Flagship

Battle Plan
No. 1

Lat. 9^o - 55' N.
Long. 154^o-03' E.
14 August 193-

TASK ORGANIZATION

- (a) Battle Line, Vice Admiral OD
 - Batdiv Two
 - Desdiv Three
- (b) Fast Wing
 - Baterudiv One
 - Desdiv Six
- (c) Forces in Center, Vice Admiral OCA
 - Crudivs Five, Six
 - Desron One, less Desdiv Three
- (d) Forces on Right Battle Flank, Rear Admiral OCB
 - Desron Three less Desdiv Nine
- (e) Forces on Left Battle Flank, Captain OCD
 - Desron Two less Desdiv Six
- (f) Carrier Division, Rear Admiral OCV
 - CV-Two
 - Desdiv Nine
- (g) Submarines, Rear Admiral OCS
 - Subdivs Seven, Twenty

1. Mission. To destroy the first considerable BLUE Force leaving TRUK, in order to interrupt BLUE's OAHU-MANILA line of communications.
Information. As contained in my Operation Order Number Two.
Assumptions. That BLUE will seek general engagement with all available forces near TRUK. That he will use delay or retiring tactics initially to hold the gunnery advantage his battle line has in the extreme and twenty four dash twenty seven thousand yard range bands, while employing his air, submarine and light forces to reduce our strength or speed and when favorable opportunity is created will close to moderate ranges to reach a decision. That normal weather and visibility conditions prevail.
2. This force will engage decisively at ranges favorable to our battle line, by closing rapidly to ranges under twenty four thousand yards, while employing light forces supported by Fast Wing to break up attacks of enemy light forces, and submarines and aircraft to reduce the strength or speed of enemy battle line, followed by a coordinated attack with all forces at close range, presenting favorable target angles, in order to destroy BLUE Forces.
3. (a) Battle Line bring enemy battle line under effective fire at once and close rapidly to ranges under twenty four thousand yards. Engage closely upon signal for General Attack and maneuver to present target angles near 45 degrees at ranges under twenty-four thousand yards.
(b) Fast Wing concentrate gun fire on nearest flank of enemy battle line. Support light forces in the van against enemy light forces. Avoid isolation from own battle line and conform in general to its movements.
(c) Forces in Center during approach break up enemy light force attacks and drive in center forces. Curtail enemy submarine activities. On deployment join light forces in own van.

(d) Forces on Right Battle Flank defend right flank own battle line. Attack adjacent flank of Enemy battle line when directed.

(e) Forces on Left Battle Flank defend left flank own battle line. Attack adjacent flank of Enemy battle line when directed.

(f) Carrier Division attack enemy heavy ships with bombs and torpedoes. Seize opportunity to coordinate torpedo attacks with torpedo attacks by surface forces. Deny enemy plane spot and protect own spotting planes. Defend own capital ships and carriers against enemy air attacks. Keep OTC informed of enemy movements.

(g) Submarines attack enemy heavy ships at every favorable opportunity, preferably the battle line from the unengaged side. Submarines falling astern in battle take up station off NORTH EAST PASS and torpedo damaged enemy ships returning.

(x) OTC will initiate torpedo attacks of light forces which will normally be withheld until close action is ordered. Smoke may be used at the discretion of light force commanders when attacking but otherwise only on order of OTC who may direct the laying of smoke screens or curtains by light forces when battle line is passing through unfavorable range bands. The order for close action will be initiated by OTC who will likewise direct the plan to be used in pursuit.

4. -----

5. Battle Radio Frequency Plan.
Annexed contributory plans are effective. OTC in CC-Three with Fast Wing.

OC
Vice Admiral
Commander ORANGE Second Fleet
and OTC

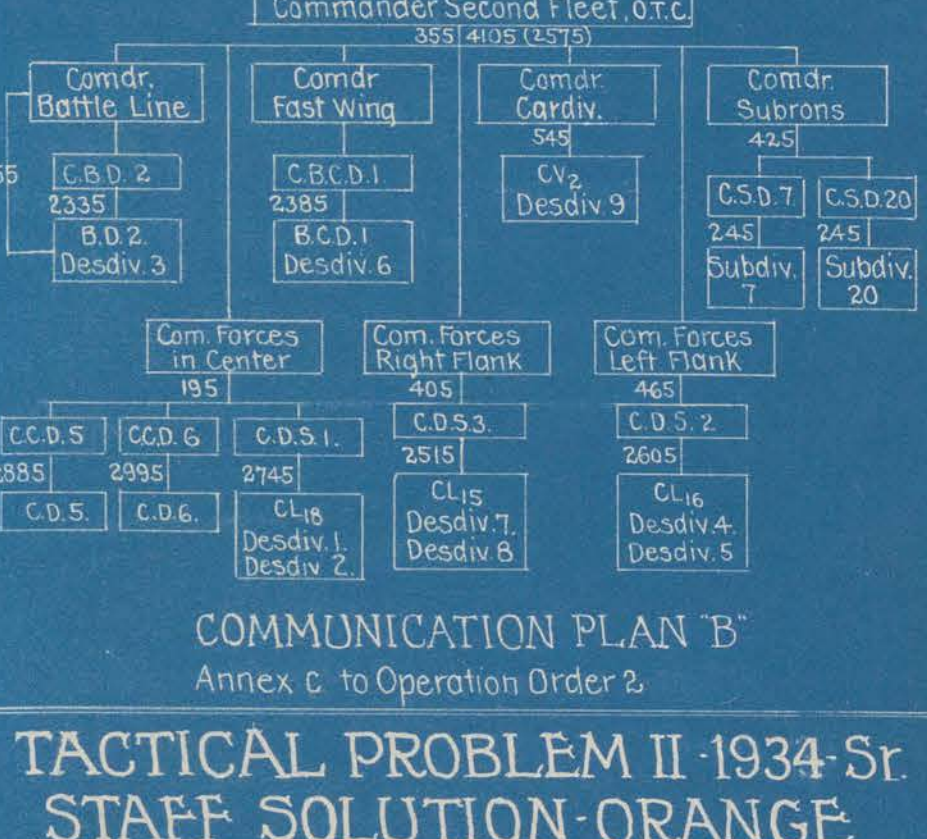
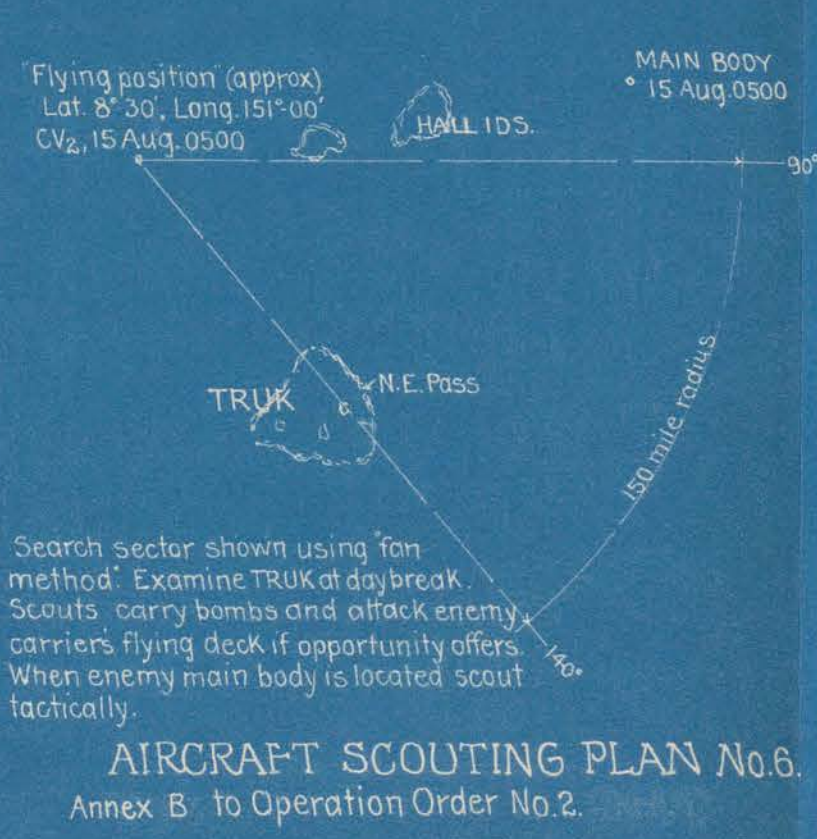
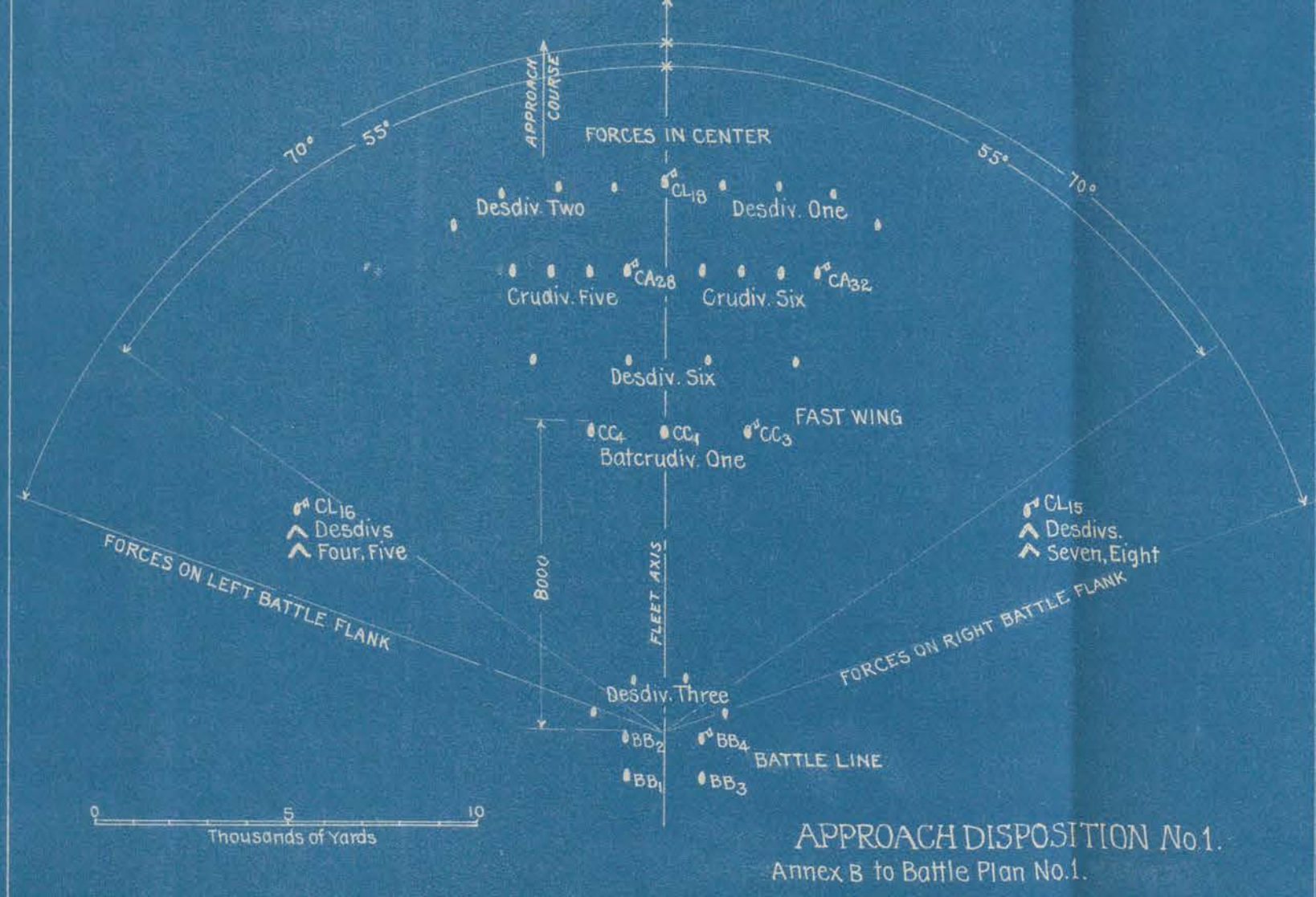
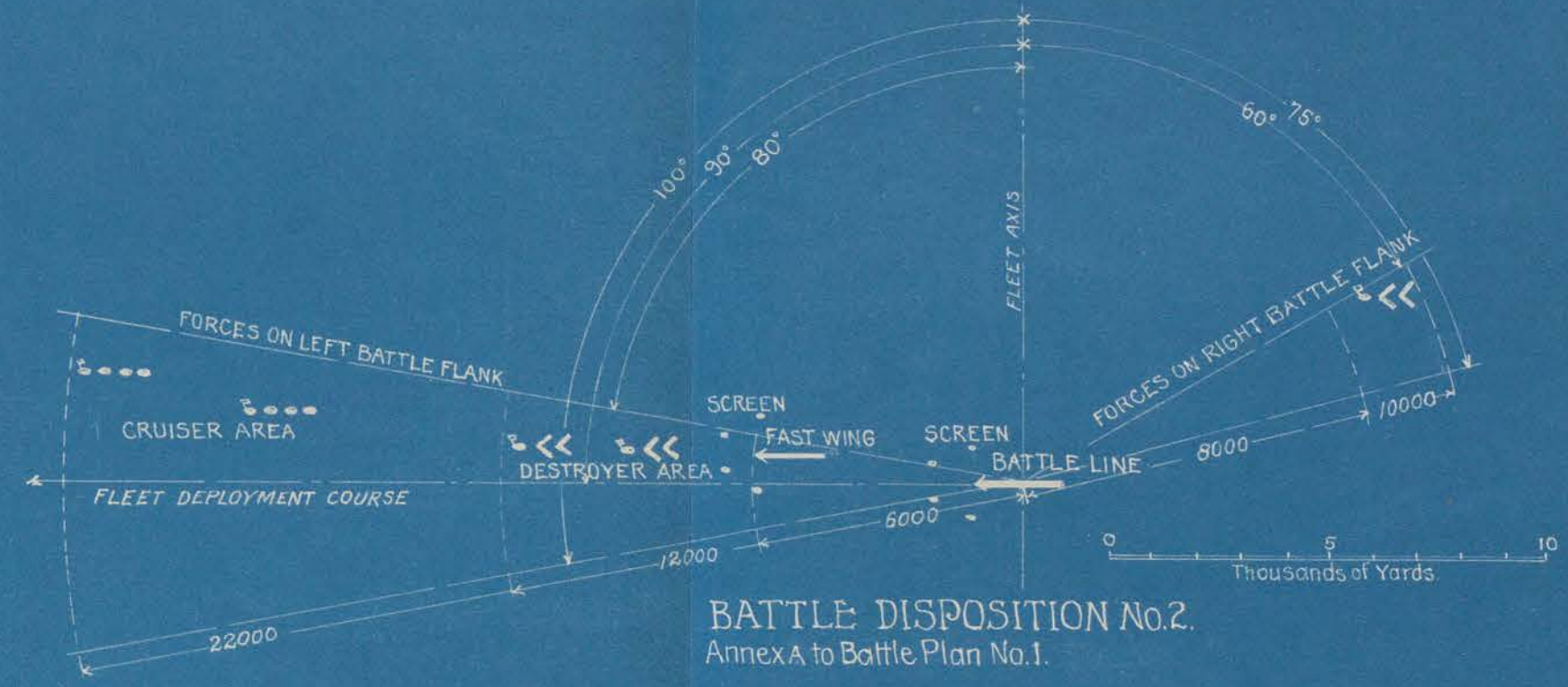
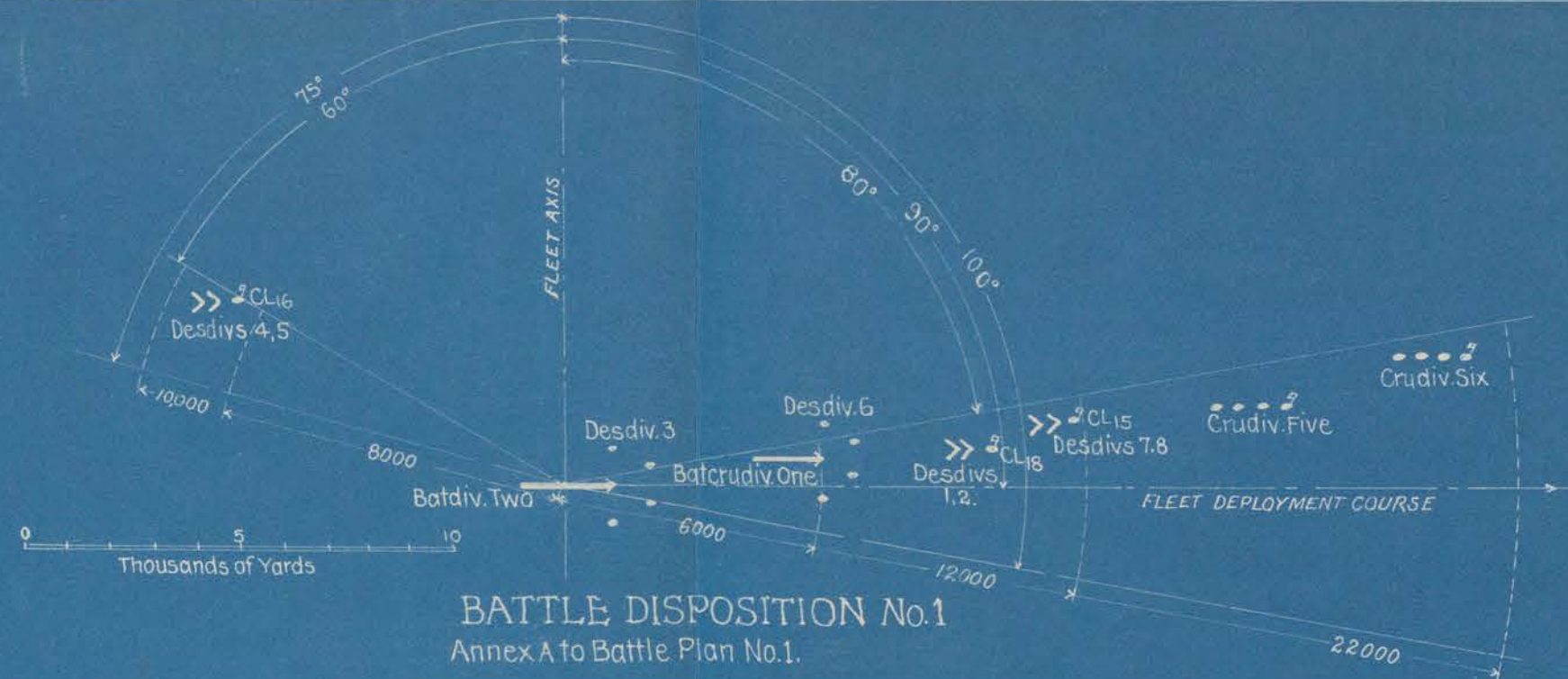
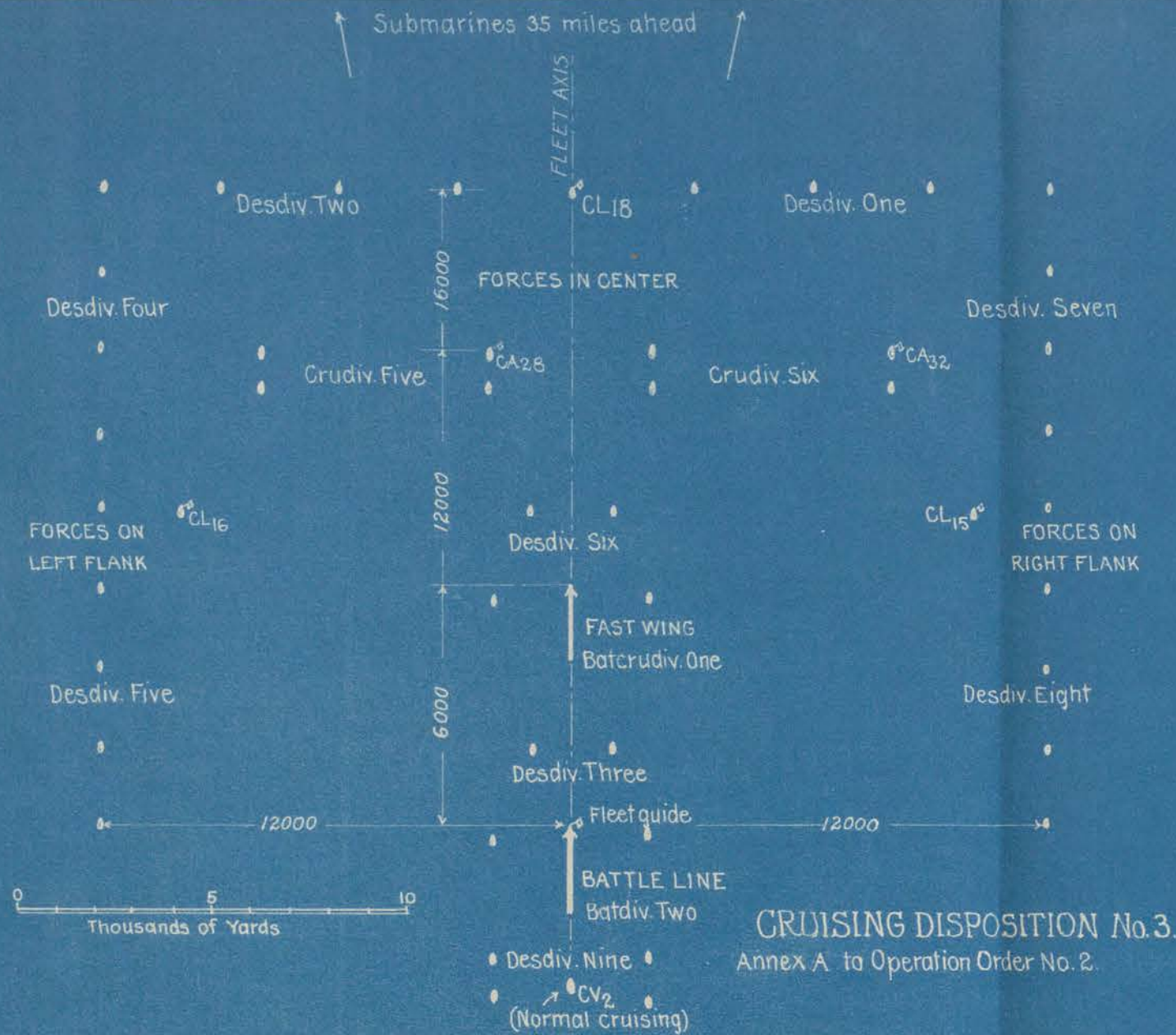
Annexes

- A. Battle Disposition Nos. 1 and 2
- B. Approach Disposition No. 1

Distribution

Annexed to Operation Order No. 2.

OKA
Commander
Flag Secretary.



TACTICAL PROBLEM II - 1934 - ST. STAFF SOLUTION - ORANGE