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> JCSM-312-67 2 PG Del

MEMORANDUM FOR THE SECRETARY OF DEFENSE

Subject: Air Operations Against NVN (U)

1. (U) Reference is made to:

19388

a. Your memorandum, dated 20 May 1967, subject as above.

b. JCSM-288-67, dated 20 May 1967.

c. JCSM-286-67, dated 20 May 1967.

Copy No× Case No. T.S. No. 2. This memorandum provides the views of the Joint Chiefs of Staff on the conduct of the air campaign in North Vietnam (NVN). The alternatives proposed in reference la, and the views of the Joint Chiefs of Staff reflected in references 1b and 1c and an additional alternative have been evaluated on the basis of criteria contained in your memorandum. However, in addition to these criteria, other factors have been considered in order to reach a better assessment of the bombing campaign in the North upon the war in the South. The campaign against the North, in addition to reducing the flow of men and materiel to the South, must bring about a deterioration in the enemy's total environment so as to curtail his over-all efforts to support the This can be achieved by causing increasing expenditures war. of time and effort manifested by drains on the enemy's materiel resources, management skills, human energy, and morale. When this curtailment is achieved, the turbulence in the South can be reduced more rapidly by military forces to a level where internal political action can effectively maintain stability. Therefore, in addition to the criteria specified in your memorandum, additional factors considered in the following analysis are the impact of NVN import capability, the diversion of NVN national resources to maintenance of his logistic structure, the contribution toward attainment of over-all US objectives in Southeast Asia, and the impact on the morale of US and Free World fighting forces throughout Southeast Asia.

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3. (15) The analysis of the campaign in NVN together with salient facts and estimates applicable to each of the suggested campaign alternatives is contained in the Appendix hereto.

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ALTERNATIVE I

4. (To) Execution of Alternative I would not appreciably reduce the flow of men and materiel into the South below current levels. The reduction in the distances over which the enemy LOCs are exposed to attack decreases the effectiveness of interdiction and attrition of supplies. Granting the enemy relatively free and rapid access to Thanh Hoa would decrease the time, rolling stock requirements, pipeline assets, and man-hours necessary to achieved by increased US air and naval efforts in the southern packages. In addition, it would release for use in the lower route packages sizable enemy resources currently devoted to LOC support and defense in Route Packages IV, V, and VI. Finally, it would decrease the burden that NVN must bear for support of

5. (TS) Curtailment of air operations in Route Packages IV, V, and VI, except those required to maintain the destruction of important fixed targets or to attack new military activities would initially reduce US losses. During any period of time that his northern LOCs are free from air attack, the enemy could accelerate with greater ease the importation of weapons and munitions. He could also reposition existing weapons from the northern areas and create greater density of air defenses in the NVN Panhandle area. Therefore, withdrawal of air operations from the northern LOCs should reduce aircraft losses but only for a limited time, and, dependent on enemy initiative, could eventually increase them.

6. (C) Selection of this alternative would not increase the risk of greater military or political pressures from the Soviet Union or Red China. An action of this nature would probably be interpreted as yielding to the pressures of those (including the communists) who oppose US actions against North Vietnam and as a weakening of US resolve. Circumstances suggest that such an action would only serve the communists' interest. The communists would probably claim a victory and might be encouraged to press for greater concessions. As a result, NVN's apparent resolve to continue the war would probably be stiffened.

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ALTERNATIVE II (PORTS OPEN)

7. The adoption of Alternative II, without strikes on the ports but with attacks on the major airfields, while continuing to punish Northern NVN to a degree, allows NVN to absorb the damage and accommodate to the attacks. Even if attacks on land LOCs from China were highly successful, existing port capacities are sufficient to absorb necessary tonnage requirements. For an interdiction campaign to be effective, all elements of the import system in NVN must be attacked concurrently and on a sustained basis.

8. (This alternative would probably make it more difficult to reverse recent aircraft and crew loss trends. The future effectiveness of the enemy air defense system would be largely enemy controlled in that he could continue to incorporate quantitative and qualitative improvements imported from Russia and China. Under these circumstances, US loss rates could only be controlled at the expense of attack effectiveness.

9. (See This alternative does not entail the risk of increased pressure from the Soviet Union and Red China.

ALTERNATIVE II (PORTS CLOSED)

10. (The Alternative II (Ports Closed), although authorizing attacks on all LOCs, possesses the disadvantages of not maintaining present levels of damage on enemy installations and industry, or attacking new military targets.

11. (This alternative would make it militarily profitable to mount a sustained attack on the roads and railroads from China, which, combined with attacks on the ports, would result in the enemy being faced with increasing difficulties such as frequent interruptions on his LOCs, use of alternative means of transport, and additional diversion of leadership, management, and labor resources.

12. (15) Losses of US aircraft, after initial increases due to the increased sorties against the enemy's intensely defended targets, are expected to decline when only sustaining attacks are required and as the enemy air defense system is degraded through impairment of his over-all logistic system.

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The reaction from communist countries would be stronger 13. than in the case of the other alternatives. The Chinese communists would probably provide increased logistic support, antiaircraft, and engineer units, but avoid any action which they believe would increase the possibility of US military action against China. At some point, the USSR would create an atmosphere of heightened tension with the United States and would take certain actions designed to bolster North Vietnam, such as increased aid and possibly the introduction of new or improved weapons. The Soviets could take other actions designed to serve as a warning to the United States without leading to a serious confrontation. These might include provision of volunteers or crews for defense equip-They might also suspend current diplomatic negotiations ment. with the United States on certain subjects. However, it is believed that the Soviets are not willing to resort to strong and direct threats of general war as a means to protect North Vietnam. Also, there would be a good chance that at some juncture they would exert strong efforts toward a political solution.

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ALTERNATIVE III

14. (The Joint Chiefs of Staff have also considered an additional alternative which simultaneously expands the bombing of significant war-supporting fixed targets and the armed reconnaissance operations in Route Packages VIa and VIb by authorizing strikes on all LOCs, excepting only those within an eight NM radius of the center of Hanoi and a 2 NM radius of the center of Haiphong. This program will require continuous strikes against MIG aircraft on all airfields. Further, every effort will continue to be made to deny importations from the sea except that strikes will not be made in the immediate vicinity of the Haiphong commercial wharf (Chamber of Commerce Docks) and mines will not be laid in the deep water approaches to the maritime ports north of 20° N, or in waters contiguous to commercial wharves. Targets whose destruction will have a far-reaching effect on the NVN capability to fight have been identified. Excluding only the wharf area in Haiphong, densely populated areas, and mineable approaches these targets are:

a. Facilities directly associated with LOCs in the vicinity of Haiphong, Hon Gai, and Cam Pha including distribution and transshipment points, warehouse areas, shipyards, and machine shops.

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b. LOCs and associated facilities including vehicle, locomotive, and railroad car repair shops, vailroad classification yards, railroad and highway bridges (including JCS #12, Hanoi Pailroad and Highway Bridge over the Fed Fiver), and facilities engaged in the fabrication of barges, rolling stock, and repair equipment.

c. Inland waterways. Selective mining will be extended from 20° H to the Chinese communist buffer zone as shallow water mines become available.

d. Electric powerplants as necessary to maintain the desired level of damage.

e. Airfields and key elements of the NVN air defense system including control centers and SAM support facilities.

f. Military complexes including supply depots, barracks, and new military activities.

15. (The adoption of this Alternative would incrove operations over the current status. While it would fall short of the effectiveness of programs that include attacks upon the ports, the additional operational flexibility and more comprehensive targeting authority favor it over Alternative II (Ports Open). This course of action, with restrike option, would allow a comprehensive and coordinated air campaign. Increased military pressure would be placed on the enemy's internal war-supporting resources and his capability of distributing materiel.

16. (Losses of US aircraft under this alternative would be similar to those under Alternative II (Ports Closed).

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17. (Under Alternative III, military and political pressures from Soviet Bussia and Red China would be very similar to those of the present. However, as operations gained in effectiveness, the communists could be expected to increase their aid to North Vietnam and their propaganda against the United Status.

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SUMMARY

18. (Alternative I is not a desirable course of action for the following reasons:

a. It will not appreciably reduce the flow of men and materiel to the south.

b. It will permit increased enemy freedom of action in the north and allow him to increase the density of his air defenses in the Panhandle.

c. It will not, in the long term, appreciably reduce US losses and will indicate a weakening of our resolve to the detriment of our goals and achievement of our objectives.

19. (TS) Alternative II (Ports Open) is not desirable for the reasons cited in subparagraphs 18a and 18c, above, and in addition, it will not effectively degrade the enemy's warmaking capability because:

a. It does not provide for attacking all elements of the import system.

b. It eliminates strikes against important fixed targets.

20. (Alternative II (Ports Closed). This alternative will make it militarily profitable to initiate sustained attacks on land LOCs leading from China. It will permit attacks on all modes of enemy transport and will reduce enemy imports, the basic source of NVN's war-supporting materiel. However, it fails to provide for exerting simultaneous military pressures on NVN internal resources through attacks on important fixed targets and new military targets.

21. (Alternative III would improve operations over the present program. It would allow a comprehensive and coordinated air campaign. However, it falls short as do the other suggested alternatives of applying sufficient pressure against all elements of the import system and important NVN internal resources.

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22. (The discussion and summarization are supported by an analysis contained in the Appendix hereto. The Joint Chiefs of Staff consider that these programs will be militarily effective in the following order: (1) JCS course of action (references 1b and 1c, above), (2) Alternative II (Ports Closed), (3) Alternative III, (4) the current status, (5) Alternative II (Ports Open), and (6) Alternative I.

CONCLUSION

23. (TD) The Joint Chiefs of Staff have studied the alternatives and have reviewed the air and naval campaign recommended in JCSM-288-67, dated 20 May 1967, and JCSM-286-67, dated 20 May 1967, references 1b and 1c, above. in the light of these alternatives. The analysis provided in the Appendix supports the conclusion that the recommendations submitted to you on 20 May 1967 represent the most effective way to prosecute successfully the air and naval campaign against North Vietnam. Such a campaign would exert appropriate military pressures on North Vietnamese internal resources while substantially reducing the importation of the external resources that support their war effort and could be accomplished at risks and costs no greater than those associated with the most desirable of the suggested alternatives, Alternative II (Ports Closed). Although the Joint Chiefs of Staff recognize and appreciate the necessity for continuing review, they believe that the campaign selected and recommended to you, together with expanded efforts to increase the destruction and enemy consumption of war materiels in South Vietnam, would have a far-reaching detrimental effect on the North Vietnamese capability to support and direct the aggression against South Vietnam.

For the Joint Chiefs of Staff:

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Attachments



1. (U) This Appendix presents an analysis of the campaign in NVN as recommended by the Joint Chiefs of Staff
 in JCSM-286-67 and JCSM-288-67, the alternatives sug gested in a memorandum by the Secretary of Defense, dated
 20 May 1967, and an additional alternative.

APPENDIX

6 2. (U) It should be recognized that this problem could be analyzed in several ways. The methodology used in this 7 analysis examines those elements considered salient by the 8 Joint Chiefs of Staff -- costs, benefits, and risks to the 90 United States. The various factors selected to measure 10 these elements were quantified, to the extent possible, and 11 evaluated by use of operational analysis techniques. In 12 quantifying these factors, data base derived information 13 or valid Defense Intelligence Agency estimates were used 14 where available. 15

3. (m) The factors selected to measure the cost to the 16 United States are aircraft and aircrew attrition. The 17 factors selected to measure the benefit to the United States 18 are degradation of the enemy's ability to continue aggres-19 sion in terms of manpower, installations, weapons, munitions. 20 and construction materials; and degradation of enemy 21 capability to move men and materiel in terms of LOC 22 capacity, POL stocks, and transport inventory. Factors 23 selected to measure the risk to the United States are 24 those represented in NIEs and an evaluation of the 25 effect on the morale of US fighting men in South Vietnam. 26 4. (The salient elements are addressed using the 27 methodology and data inputs indicated: 28

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Appendix

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Direct cost to the United States is measured in 1 a. aircraft and crew attrition. For purposes of this 2 analysis, it is assumed that benefits to the United 3 States are direct costs to the enemy. The methodology 4 employed is to consider the major enemy target systems 5 exposed by each alternative. Cost is then determined by: 6 (1) applying currently authorized sortie numbers and 7 strike/support ratios and munitions; (2) considering sortie 8 distribution and appropriate targets for the alternatives 9 and the campaign recommended by the Joint Chiefs of Staff; 10 and. (3) adapting historical loss rates for aircraft and 11 aircrews modified to indicate the predicted rate of loss for12 both initial and sustained operations. For this analysis, 13 14 the initial effects are those that will occur within about 15 90 days from initiation. The sustained effects are those which could be expected after operations have been conducted 16 17 over an extended period of time allowing reaction or 18 accommodation to take place.

In this analysis, benefits to the United States b. 19 are measured for each course of action in two separate 20 areas: (1) Degradation of enemy ability to move men 21 and materiel into and within North Vietnam, in terms of 22 interdiction of rails, roads, waterways, air transport, 23 imports, reduction in the inventory of rolling stock, and 24 POL stockpile; (2) Increase the price to NVN for 25 continued support and direction of the aggression in 26 SVN in terms of manpower dislocation, electrical power 27 facilities, reduction of enemy weapons, munitions, and 28 construction equipment and material. 29

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Appendix

c. The degree of risk to the United States is determined 1 relative to that associated with current operations. There-2 fore, risk is either greater, similar to, or less than that 3 of today, and provides a basis upon which the acceptability 4 of an alternative may be judged. The factors considered 5 relate to the effect upon the Hanoi Government, Red 6 China, Soviet Russia, US Allies and US fighting forces 7 in South Vietnam. Concerning the Hanoi Government, 8 it is important to determine if US actions are 9 likely to cause the collapse of the government thereby 10 creating an undesirable void or, conversely, are likely to 11. bolster the resolve of that government thereby prolonging 12 the confrontation in South Vietnam. Consideration of 13 possible US actions with reference to Red China and Soviet 14 Russia must include the political and military aspects of 15 risk which could vary from propaganda and military support 16 to the likelihood of headlong confrontation in the case 17 of Red China. In addition, the resolve and morale, and 18 therefore support, of US Allies and the morale of US 19 fighting forces in South Vietnam are matters of importance 20 and concern to the United States and could vary widely 21 in response to US actions. 22 5. (Methods of Analysis 23 а. The relative facts involved in the alternatives are 24 extensive in number and most of them are not directly 25 quantifiable. However, a confident analysis of the 26

quantifiable. However, a confident analysis of the 26 relative worth of the alternatives is possible through 27 the employment of a systematic method wherein relative 28 numerical values, based on logical judgments, are assigned 29 to the elements under each alternative. This is a 30

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Appendix

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fundamental application of the utility theory and the theory 1 of decision making under uncertainty. The values assigned 2 are termed nonparametric statistics. 3

b. The first step in this analysis involves the establishment of the elements of the decision matrix of relative values (See Annex hereto). The cost, benefit, and risk items described above were selected as the row elements and the initial and sustained effects under each alternative were selected as the column elements.

c. Analysts examined each of the elements of the 10
costs, benefits, and risks under the impact of the five 11
differing courses of action. They made their estimates 12
of the situation in terms of the initial as well as 13
sustained effects. 14

d. Each of these sets of appraisals was then evaluated in the following manner:

(1) A K-factor was determined from a variable
17
scale 0 to 100 to represent a value judgment of the
18
element in terms of current operations. The lower
19
limit, zero, represents the worst possible status
20
and 100 represents the best status of the element
21
from the point of view of the United States.

(2) Each of the four appraisals was then evaluated 23 to determine the relative value, 0 to 100 applicable 24 under each course of action. The value assigned 25 reflects an improved status if it is greater 26 than the K-factor. In effect, this procedure applies 27 relative weights to each element of the rows of the . 28 matrix within the three categories of costs, benefits. 29 and risks. 30



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categories as follows:

(3) The columns were then summed and averaged l by major category. These values represent a 2 systematic development of decision criteria which 3 4 may be used to compare different alternatives and also may be evaluated in terms of operational 5 6 experience and judgment in determining military effectiveness. 7 These weighted-average values represent a systematic develop-8 ment of decision criteria. 9 6. Conclusion. The courses of action are ranked 10 by their sustained average values in the three major 11

12

Costs	Benefits	Risks	Ranking	13
I) and Current Status	JCS	JCS	l	14
	II (Ports Closed)	II (Ports Closed)	· 2	15
JCS and II (Ports Closed)	III	III & Current Status	3	16 17
	II (Ports Open)		4	18
III	Current Status	II (Port Open)	5	19
II (Ports Open)	I	I	6	20

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This means that the execution of either Alternative I or 1 2 maintaining the Current Status is the most favorable to the United States in terms of costs while the execution 3 4 of the JCS Recommendation is the most favorable in both the benefits accrued and the risks encountered. 5 The 6 risks under the sustained effect of the JCS Recommendation 7 or Alternative II (Ports Closed) is slightly more favorable 8 than the risk of Alternative II (Ports Open) because 9 of the relative military values assigned to the intelligence appraisal of the combined NVN-Chinese-Russian move 10 toward political solution over the long haul in spite of 11 12 their initial increased military and political pressures to mobilize world opinion against the United States. In 13 14 addition, the military evaluation places a high value on 15 the intelligence estimate of the enhanced US posture 16 in the eyes of the South Vietnam Government and our 17 other Asian allies.

18 c. The long term costs in aircraft and aircrews are 19 slightly less favorable in the JCS Recommendation than in Alternative I and at present (Current Status). On the 20 21 other hand, the initial risks are slightly less favorable in the JCS Recommendation than in Alternative II (Ports Open)²² 23 or Alternative III. However, it is advantageous to select 24 the JCS Recommendation on the basis of the sustained 25 effects which give high returns in benefits and produce 26 the most acceptable risks in the long term.

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Appendix

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untownul Mag	DECISI	ON NATRU	DECTSION MACHIX OF RELATIVE VALUES	ALUES			۰.	
	0	OSTS, BEN	OF COSTS, BRIGFITS, AND RISKS	13 KS				
0-1-0			Sec	SecDef Memorandum of	nthem of 20 M	20 May 1967	5	
Currencier	CURRENT	ALTERNATIVE	LIVE I	ALTERNATIVE Ports Open	TEBRATIVE II Ports Open	ALTERBATIVE II Ports Closed	IVE II losed	ALLE
	STATUS	Effect	sct	2 E E	t		55	
). 2.	×	Initial	Sustained	Initial	Bustained	Initial	Sustained	Initia
	140.0	50.0	30.0	30.0	20.0	15.0	0.0	17.0
	40.0	60.0	50.0	h0.0	20.0	12.0	32.0	0.21
Total	80.0	0.011	80.0	70.0	h0.0	27.0	72.0	27.0
Average	0.04	55.0	10.0	35.0	20.0	13.5	36.0	13.5
2. BARFITIS								
a. Degradation of energy ability to move man and material into and within MVH	!							
(1) Transfiction of rail LOCA NVE	30.0	140.0	25.0	55.0	40.0	55.0	60.0	55.0
	30.0	35.0	35.0	0.04	35.0	0.0 9	20.0	10.0
1 1	20.0	80.0 20.0	25.0	65.0	85.0	65.0	85.0	66.0
(4) Interdiction of Air iransport (5) Interdiction of Imports	10.0	0.00	0.00	35.0	15.0	10.0	55.0	35.0
	20.0	20.0	20.0	30.0	40.0	40.0	40.0	35.0
	20.0	20.0	20.0	25.0	25.0	140.0	30.0	30.05
(1) INVENTOR OF AN ADDRESS CONTRACTOR (A) BOIL STATEMENT	25.0	25.0	25.0	30.0	45.0	45.0	80.0	30.0
Mampower Dislocation	0.04	0.04	25.0	0.04	20.02	0.09	0.02	2
(2) Dumage to Electrical Power Facilities (2) Beduction of Energy Memoria	80.0 80.0	8.0 8	20.0	30.0	8.0 8	30.0	70.0	8.0
	20.0	25.0	20.0	30.0	35.0	35.0	50.0	32.(
1	35.0	35.0	25.0	35.0	35.0	40.0	75.0	35.0
(5) Operation of Fort Facilities	10.0	9.9 9	0.01	10.0	0.01	62.0	780.0	đ
Total	99.0 1		0.000	2.74	7 55		55.7	14
Average	28.3 28.3	0°62	T.R	8	2			
3. RIBES						2	60.0	9
a. Threat from China	70°0	200	0.0	55.0	50.0	0.01	50.0	-05
	20.02	P D	10.0	005		0 0 9 9	60.0 60.0	8
d. Loss of Allied Support	0.0 1	35.0		2.02			0.5	60.
	20.0	80.0 20.02	30.0	270.0	260.0	255.0	20.0	265.
Average	55.0	0.4 1		54.0		51.0	58.0	53.

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ANNEX

ALTERNATIVE I

1. Costs. As a basis for costs, a sortie level of 1 8000 attack sorties per month throughout NVN has been selected. 2 This figure represents the average strike level of effort flown 3 against NVN during the period 1 April 1966 - 30 April 1967. 4 Combat support and other special sorties have accounted for the 5 remainder of sorties flown during the historical reference 6 period. Forecasting aircraft losses in this analysis is 7 a function of attack sorties and application of cumula-8 tive aircraft loss rates. Aircrew losses have been calculated 9 to be 1.25 times aircraft losses, reflecting multi-placed 10 aircraft downed during the reference period. Application of 11 these aircraft and aircrew recovery rates have provided the 12 numerical basis for these cost forecasts. It should be noted 13 that on a month-to-month basis losses fluctuate widely; how-14 ever, over the sustained period, average losses are expected 15 16 / to be similar to those forecast.

a. Aircraft Losses.

(1) Initially, the combined US attack loss rate in 18 19 Route Packages I-III should approximate the present of 1.54/1000 sorties. Allowing 10 percent, about 800, of 20 the monthly sorties for restrike of important fixed tar-21 gets in the upper route packages would place the over-all 22 loss rate at about 2.1/1000 sorties. As the North 23 24 Vietnamese discern the shift in our strike effort, a countering shift in enemy defenses may be expected. 25 Route Packages I-III currently contain about 20 percent of 26 the enemy AAA-AOB which are concentrated at logistic hubs 27 and LOC choke points. Dependent on the amount and time 28 phasing of the enemy shift of defense posture to the south,29 the attack loss rate in Route Packages I-III should rise 30 to at least the present over-all NVN attack loss rate of 31 2.55/1000 sorties and could become as high as 4.62/1000, a32 factor of three. The shift in enemy defenses from Route 33 Packages IV-VI to Route Packages I-III would be gradual 34



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initially but would afford a higher density of AAA than 1 that experienced to date and could possible approximate the 2 average present gun density of Route Packages V and VI. 3

(2) We should not be mislead by present high and low
loss rate regions. Shifting the emphasis of our attacks
to lower loss rate areas could be accommodated by the
NVN defense system without a reduction in the formidable
defenses around the important targets in northern NVN.
It is most likely a new loss rate pattern would appear
within three to six months.

b. Aircrew Losses. The present overall recovery rate 11 in NVN is about 37 percent and for combined Route Packages 12 I-III is about 52 percent. Under Alternative I, with more 13 sorties flown in a more permissive environment, a combination 14 of the proximity of safe ejection areas and more rapid 15 response possible by rescue forces should initially 16 improve overall NVN recovery rates. However, as operations 17 are sustained beyond the initial period, aircrew loss 18 rates could be expected to rise. 19



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2. Benefits

a. Ability to Move Men and Materiel.

(1) Rail

4 With the bombing effort concentrated in Route Packages I, II, and III initial and sustained degra-5 6 dation of the present 900 MT rail throughput capacity can be anticipated in these areas. However, the 7 net loss in the total throughput capacity of all LOCs 8 would be negligible in the longrun. It would last 9 only until the reduction resulting from the loss of 10 the present limited rail capacity is absorbed by other 11 modes of transport. 12

Cessation of bombing in the north initially 13 will allow unrestricted use of the 5,200 MT capacity 14 of the rail lines from the China border and in the 15 longer run will permit restoration to the uninterdic-16 ted capacity of about 7,000 MT for the two rail lines 17 from China. Additionally, it will permit unrestricted 18 use of the 2,500 MT Hanoi-Haiphong line to move 19 imports from the Haiphong area. In effect it will 20 allow a total of 7,700 MT a day rail capacity to 21 serve the Hanoi area from China and Haiphong. About 22 2,500 MT of this capacity could be used to serve 23 24 Nam Dinh and 900 MT capacity would extend to Phu Ly.

(2) <u>Highway</u>. The portion of the NVN highway network located within the regions of Route Packages I,
26
II, and III comprises approximately 25 percent of the
27
8,000 miles of motorable roads in the country. It is
28
expected that concentration on the LOCs in the
29
Panhandle would result in frequent temporary
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disruption of the motorable highways. However, since the highway net provides a very flexible transportation system which is difficult to interdict for sustained periods, the percentages of total capacity would be reduced up to one-third from the current potential throughput capacity of 2,500 metric tons per day even under a heavy interdiction program. 1

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(3) <u>Waterways</u>. Perennial north-south waterway 8 capacity in Route Packages I, II, and III is about 9 225 metric tons per day via inland routes and about 10 450 metric tons per day via coastal routes. East-west 11 waterways range in capacity to 1,800 MTPD. These 12 routes are primarily natural streams; locks and other 13 navigational aids are rare and, for the most part, 14 already inoperative. Adequate manpower is available 15 to clear streams of sunken hulks or other hazards to 16 navigation. The current mining program has proved to 17 be unable to stop small craft activity although the 18 introduction of a diffenent type mine designed for 19 use in shallow water may prove considerably more 20 21 successful. Barring this latter possibility, attacks on waterways per se would not noticeably affect their 22 23 capacity in this area.

(4) Air Transport

This alternative would virtually permit an uninter- 25 rupted airlift into NVN airfields since MIG air defense 26 operations from these fields would be reduced. 27

In an airlift into North Vietnam, the Soviet Union 28 could employ both military and civil transports. Air- 29 craft committed could include the CUBs (AN-12) in 30 Military Transport Aviation (VTA) and half of the 31 civil air fleet (Aeroflot). In an all-out effort, 32 assuming VTA furnishes 720 aircraft and Aeroflot 470 33 Faft, there would be a total of 1,190 aircraft 34 SECRET

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Annex

TOP SECREM deployed. Based on aircraft availability, maintenance

and use factors, a daily airlift capability, Irkutsk to North Vietnam, would be 297 aircraft that could tranport 27,113 passengers/troops or 2,680 MT of cargo daily.

6 In an airlift into North Vietnam, the Chinese communists could employ both military (CCAF) and civil 7 8 transports (CAAF). Because of the proximity of Hanoi to the Chinese border, transport aircraft would be 9 10 available for more than one sortie each over the 11 short distances from South China airbases to the 12 Hanoi-Haiphong complexes. Even if the major airfields in NVN such as Phuc Yen and Kep could not fully 13 support transport operations because of air defense 14 15 commitments, the remaining airbases in the complex --16 Cat Bi and Kien An in the Haiphong area and Gia Lam 17 and Bac Mi in the Hanoi area - - are considered 18 capable of handling any airlift operation the Chinese 19 could muster. Based on two sorties per day per 20 available aircraft using degradation factors, it is estimated that the following daily sustained rate of 21 supply could be achieved: 22 23 254 sorties carrying 865 MT.

For a period of sustained operations exceeding 30 24 days, the effort would be further reduced as follows: 25 223 sorties carrying 607 MT. 26



Annex

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(5) <u>Interdiction of Imports</u>. Initially imports would remain at about the same levels if bombing were largely restricted to the Panhandle. The sustained effect would be to permit additional import requirements to be met as the existing port congestion is reduced and LOCs are improved in the northeastern areas. Most imported commodities are used in the north, and only relatively small quantities of ammunition and weapons are moved on to the south. Although destruction of materials within the NVN Panhandle could be increased by concentration of the interdiction effort, these losses probably would be offset by the increased ease of importation into the country.

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(6) Rail Rolling Stock Inventory. Intensification 15 of bombing in Route Packages I, II, and III could 16 result in a further reduction in the number of freight 17 cars and locomotives operating on the rail lines in 18 those areas, which at present is estimated to be less 19 than 20 percent of the total inventory. There are 20 severe restrictions to capacity operations by the 21 lack of rolling stock in these areas. In Route 22 Package VI all major rail operations could continue. 23 This has, in the recent past, required an estimated 24 70 percent of the inventory of rolling stock and 25 locomotives. This equipment would be free from 26 attack and could operate with impunity. 27

(7) <u>Vehicle Inventory.</u> At least 25 percent of the
cargo vehicle fleet would still be subject to direct
attrition through the conduct of bombing and armed
reconnaissance within Route Packages I, II, and III.



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While approximately 2,500 trucks are believed deployed in the Panhandle are at present, an increase in strike effort there may require stationing of more trucks on shorter shuttle routes to maintain adequate forward movement of esential supplies. A sustained high sortie level could force a rise in the number of trucks within the region to as many as 4,000. This would cause a major shift in motor transport utilization in the remainder of the country unless imports of trucks were significantly enlarged to augment the present estimated total inventory of 10,000 trucks of 1 ton cargo capacity or larger. A total of at least 175 trucks per month have been lost by the enemy as a result of strikes within this region. This rate of loss might be increased to about 250 under sustained attack. However, this additional loss could be offset partly by more efficient use of vehicles in uninterdicted areas and by imports of replacement transport.

(8) POL Stockpile and Movement. Concentration of 20 the bombing on the LOCs in the NVN Panhandle can be 21 expected to hinder the flow of POL into and through 22 the area. Initially, some reduction in the flow would 23 probably occur as rerouting is induced, storage and 24 refueling points are realigned, and carrier require-25 ments are adjusted. Modest increased consumption would 26 also occur in this area as the efficiency of motorized 27 transport is reduced and additional carriers are required 28 to circumvent interdicted routes. Reserve levels 29 maintained in the Panhandle are not believed to be 30 extensive and the probable increase in POL losses 31

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at dispersed storage installations and enroute along ٦ the LOCs in the Panhandle would induce heavier calls on 2 reserves in the area. Although some of these effects 3 can be compensated for by diversions from civilian 4 consumers, increased use of non-motorized transport, 5 and rationing, the storage and distribution of POL in 6 the Panhandle area would require greater effort through 7 increased manpower and vehicular resources as long as 8 this bombing pattern is continued. The restoration of 9 the original storage facilities in the North is 10 considered improbable despite any limitation on bombing 11 as the dispersed system has proven to be an effective, 12 yet considerably less vulnerable, alternative. 13 b. Ability to continue aggression in SVN. 14 /

(1) Manpower

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a. About 200,000 full-time and 100,000 part-16 time workers have been diverted to repair, recon-17 struction and dispersal programs in NVN; of these, 18 at least 50,000 full-time and 50,000 part-time 19 laborers are believed to be engaged in LOC restora-20 tion in the Panhandle area. Concentration of the 21 bombing program in Route Packages I, II, and III 22 with a concomitant increase of up to 30 percent 23 24 in the strikes in this area, would initially require an additional 15,000 to 25,000 more regular 25 26 workers plus those needed for logistical support. Quotas for involuntary support to the government, 27 28 which reportedly have been decreased by as much as 20 to 25 percent to cope with bomb damage, would 29 have to be heavily increased in this area. The 30 31 increased diversion of this local force, if

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maintained, would reduce the capability for agricultural production within the region, increasing its dependence on the northern areas for food supplies.

<u>b</u>. However, over a sustained period the over-all manpower requirements would be considerably reduced as the repair personnel in the northern areas completed the restoration of damaged LOCs in that area. Some scarce skilled labor in the field of transport repair and maintenance could also be concentrated in the south to contend more effectively with the increased destruction.

(2) <u>Electric Power</u>. Fourteen powerplants, having a total capacity of 165,000 kilowatts or 86 percent of the national capacity have been rendered inoperative. All of these are located in the north, except four, which have an aggregate capacity of about 16,000 kilowatts or only 8 percent of the total.

(3) <u>Reduction of Enemy Weapons</u>. There is an estimated total of about 6,500 individual AA weapons of various calibers in NVN of which about 20 percent are positioned in the Panhandle. The initial additional losses of AA weapons resulting from increased US air operations in this area would probably be replaced from the large inventory in the north. Moreover, it is likely that the enemy, after determining the limitation on US actions to this area, would redeploy additional weapons from the north to meet the threat while importing additional weapons via uninterdicted LOCs entering from China. Over the long-term, as the



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restriction on US air activities became apparent, the enemy would probably risk redeployment of up to 30 to 40 percent of his ground air defense forces, thus partly offsetting the initial US advantage of reduced losses from restricting operations to this area. 1

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Small arms and artillery/mortar/rocket pieces required to replace or augment weapons in SVN would continue to be transported through the Panhandle or moved through Laos by existing LOCs or by more primitive transport means. Strikes on LOCs in the southern part of NVN would not prevent the bulk of additional weapons from reaching combat forces in the South.

(4) Reduction of Enemy Munitions

Ammunition reserves in NVN are estimated 16 to amount to about 45,000 MT of which about 17 40,000 MT are for antiaircraft artillery. 18 This amount roughly equates to a 90-day supply 19 based upon current monthly expenditure estimates. 20 It is believed that all munitions enter NVN 21 from China by land LOCs and limiting airstirkes 22 to Route Packages I, II, and III would permit the 23 unopposed import of munitions. Although increased 24 strikes in the Panhandle area might initially reduce 25 the amount of munitions reaching the DMZ area and 26 SVN slightly, under a sustained increase of air 27 attacks the enemy could be expected to resort 28 to more primitive means to move supplies through 29 the Panhandle. Use of these means would delay 30

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but not materially curtail the transportation of 1 supplies earmarked for units in the DMZ area and forces 2 in the South. If delays became lengthy and local 3 shortages developed, it might force the enemy to tap 4 existing but unlocated stockpiles or cause him to 5 adjust the number of combat engagements in the 6 South to the flow received. 7 (5) Reduction of Enemy Construction Equip-8 ment and Materials 9 As soon as NVN realized that Route 10 Package VI was almost exempt from 11 bombing, repair and reconstruction 12 of bomb damaged transportation and indus-13 trial facilities would be increased and 14 construction of new facilities probably 15 would begin. NVN has continued to make 16 contracts with other communist countries for 17 equipment, machinery, and materials to 18 construct new transportation and industrial 19 factories. These could be supplied and NVN 20 probably would proceed with their construction. 21 Except for a few indigenous minerals such 22 as sand and gravel, NVN must obtain all 23 its construction equipment and materials 24 from foreign sources; and most of these are 25. seaborne. The effects of recent bombing of the 26 Haiphong cement plant, the only producer 27 of cement in NVN, would soon be neutralized 28 either by imports of cement or by receipt 29 of foreign equipment or materials required 30 to restore the cement plant. 31

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	(6) <u>Port</u> s	1 2
	There has been no appreciable degradation in	2
	the total NVN estimated maritime port capacity of	3
	some 6,000 metric tons per day to date. Termination	4
	of strikes in the North would allow NVN to utilize	5
x	a greater portion of this capacity, in that cargo	6
	operations would no longer be interrupted by air	7
	raids, power failures, etc., and clearance problems	8
	caused by aerial interdiction against other modes of	9
	transportation would be eased. In addition, NVN could	10
	undertake to improve port capacity by additional	11
	construction, dredging, restoration of destroyed	12
	POL off-loading devices, etc.	13
	3. TST Risks	14
	a. Communist China. The concentration of bombing on	15
	the LOCs in the North Vietnam Panhandle might be	16
	interpreted by the Chinese as a sign of deescalation.	17
	They might also believe it to be a sign that the	18
	United States wants to signal its intention to avoid	19
	bombing areas close to China, thus lowering the risk	20
	of possible miscalculations. In view of the increased	21
	tempo of the war over the past year, Peiping is	22
	likely to view a reduction of the bombing in northern	23
	North Vietnam as a sign of US weakness. However, the	24
	Chinese leaders would closely watch developments in the	25
. · ·	Vietnamese situation to determine whether such a move was	26
	a forerunner to other US actions to increase pressures	27
	elsewhere. Regardless of the interpretation, Peiping	28
	would continue its propaganda blasts against bombing and	29
	maintain a steady flow of military aid to North Vietnam to	30
	assist in bomb damage repair. Commitment of Chinese groun	d31
	combat forces, the Chinese air force, or naval forces, in	32
	reaction to this program would be unlikely.	33

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b. <u>Soviet</u>. The Soviets would regard a bombing program under Alternative I as a major military and political victory. They could state that the prime reason that the bombing had shifted to the Panhandle was because of the excellent air defense system that the Soviets had supplied the North Vietnamese. As a consequence, Soviet prestige would probably be considerably enhanced and its influence might be increased.

c. <u>North Vietnam</u>. Hanoi would regard the restriction of bombing to the Panhandle area as an indication of the success of the antibombing pressures in the United States and a weakening of the United States resolve to pursue the war. It would also convince them of the correctness of their policy of not entering negotiations until the United States had complied with their conditions and this could result in a renewed effort to increase the infiltration of men and supplies into SVN and might even result in lengthening the war.

d. <u>Allied</u>. Apprehension and some slackening of support 19 could be expected from our Asian allies at the first sign 20 of what would appear to them a US retreat. 21

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ALTERNATIVE II (Ports Open)

Costs. The rationale used to forecast aircraft and ٦ 1. aircrew losses in Alternative I is applicable to this course 2 3 of action. 4 a. Aircraft Losses (1) In this course of action, approximately 2,000 5 sorties per month could be required in Route Packages 6 V-VI. Aircraft loss rates in Route Package V are 7 5.16/1000 sorties and in Route Package VI are 11.04/1000 8 sorties. Because of the location of LOC targets, a 9 combined Route Packages V-VI loss rate was established 10 as 9.57/1000 sorties, derived from a weight of 3:1, 11 Route Package VI: Route Package V. The increase in the 12 over-all NVN aircraft loss rate expected is from 13 2.55/1000 sorties to 3.55/1000 sorties as a result. 14 With the increased exposure in Route Package VI 15 attrition of attack aircraft could be expected to 16 17 increase initially based on the rate of 11.04/1000 18 sorties in Route Package VI. (2) On a sustained basis, the suspension of attacks 19 not associated with the LOCs would permit repositioning 20

of air defense assets to concentrate for LOC protection. 21 This, together with no restriction on imports by sea, 22 would provide an increasingly concentrated air defense 23 24 in Route Packages V and VI. Thus, it would probably require increasing sorties in a more hostile environment 25 to effectively interdict the LOCs in the north. The 26 increased emphasis on armed reconnaissance which exposes 27 the aircraft for longer periods per sortie could result 28 in an increase in aircraft loss rate to about 4.55/1000 29 in the sustained program. 30

b. <u>Aircrew Losses</u>. With the significantly lower crew 31 recovery rate that could be expected in Route Packages V and 32 VI, the increased effort in the north could result in a 33 decrease in the current over-all crew recovery rate of 37 34 percent down to about 32 percent. 35

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2. (TS) Benefits

a. Ability to Move Men and Materiel

(1) Rail. Increased attacks on LOCs, particularly in the northeast, would result in continued reduction of present railroad capacity. The rail lines carry imports essential to the support of NVN's military operations. Some of the most significant rail targets are located on these lines and opportunities exist for attacks or destruction of rolling stock and supplies. About 70 percent of NVN's limited rolling stock is 10 normally used on these lines and the interdiction of 11 the dual-guage and new railroad construction in the 12 northeast would reduce use of Chinese communist rolling 13 14 stock to supplement NVN inventories. The interdiction program would continue to be constrained by the lack of access to the major Hanoi-Haiphong and China border yards where the largest concentrations of rolling stock are normally found. These would continue to provide sanctuaries from which trains could move at night when attacks are less effective.

(2) Highway. Approximately 95 percent of the total 21 mileage of motorable road net, exclusive of the sanctuary 22 areas designated around Hanoi, Haipong, and along the 23 China border would be subject to interdiction. Emphasis 24 on the LOCs in the northern areas would probably cause 25 temporary dislocations at enough individual points to 26 reduce the rate of truckborne movements. 27

(3) Waterways. Waterway LOCs in Route Packages VIA 28 and VIB range to 7,200 metric tons per day. Strikes 29 against waterways have had limited effectiveness because 30 they are not readily susceptible to interdiction by 31 bombing. Only one NVN water route of any significance 32



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is canalized; even if it were breached, enough water l would remain to allow continued navigation. Even assuming 2 that all structures susceptible to aerial interdiction 3 4 (locks, inland ports, etc.) were destroyed, overall average waterway capacities would be reduced less than 5 6 30 percent. Waterways could probably continue to handle tonnages nearly equivalent to current operating capacities 7 8 during both initial and sustained periods.

(4) <u>Air Transport</u>. Attacks on NVN airfields under 9
this alternative would eliminate an effective airlift 10
capability by the Soviets or Chinese. It is not anticipated that the communists would resort to extensive 12
airdrop operations or air landings on unprepared fields 13
except for the most critical items of supply. 14

(5) Interdiction of Imports. The initial military 15 and economic effects of increased concentration of 16 air attacks on land LOCs from Communist China and 17 from the open port of Haiphong would be the dislocation 18 in the flow of imports. Emphasis on a heavy armed recon-19 naissance program in the northeast could result in 20 increased destruction of munitions and other combat 21 materiel transported over the northeast rail line. 22 However, in the longer-term the major impact would 23 probably be in the reduction of civilian supplies. 24 Some measures to assure conservation of these items 25 would probably occur as seaborne shipments, including 26 food, fertilizer, petroleum, and military/economic 27 items, are curtailed by increased disruption of the 28 LOCs from Haiphong. 29

(6) <u>Rolling Stock Inventory</u>. Approximately 70 percent
30 of NVN's rolling stock normally operates in the northern
areas, and an increased concentration of the bombing
32 effort and armed reconnaissance in this area would provide
33 access to some of the largest concentrations of rolling
34 stock and to some important marshalling yards. However,
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the recent dual- and standard-guage railroad construction 1 in the northeast will permit utilization of China's 2 standard-guage rolling stock, thus materially reducing 3 4 the vulnerability of this LOC. Moreover, the lack of access to the major yards in Hanoi and Haipong, where 5 6 the largest concentrations of rolling stock are normally found, would continue to limit the destruction of NVN's 7 inventory; it also provides sanctuaries from which trains 8 can move at night or under cloud cover when attacks are 9 less effective or entirely restricted by weather. 10

(7) <u>Vehicle Inventory</u>. Increased emphasis on strikes 11
against motor transport could initially reduce the motor 12
vehicle inventory by about 10 percent to approximately 13
9,000 trucks. However, over a sustained period the 14
additional trucks required to offset this loss could be 15
imported by sea through the open port of Haiphong or by 16
additional imports from China. 17

(8) POL Stockpile and Movement. Termination of the 18 bombing of fixed targets and expansion of the effort 19 against LOCs in the North could have a considerable effect 20 on the NVN POL distribution system and on available 21 reserves, despite the effectiveness of the dispersal 22 program. As virtually all POL storage and distribution 23 points are along the major LOCs, a concentrated attack 24 program could reduce stockpiles and inhibit the shipment 25 of bulk quantities southward. The current reliance on 26 rail shipments for the initial distribution of POL tends 27 to concentrate large amounts on a limited number of routes. 28 Extensive interdiction of the Haiphong to Hanoi rail line 29 could induce the rerouting of up to 40 percent of the 30 country's total monthly supply, while a similar disrup-31 tion of the Dong Dang line from the Chinese border to 32 Hanoi would affect the flow of critical aviation fuels 33 and lubricants which are believed to be imported solely 34

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along this route. As with Alternative I, extensive rerouting, increased handling difficulties, higher consumption, and decreased efficiency would probably result from concentrated air operations against the LOCs. b. Ability to Continue Aggression in SVN

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6 (1) Manpower Dislocation. No significant change in 7 manpower requirements would occur from the present 8 estimated diversion of 200,000 full-time and 100,000 9 part-time laborers for repair and dispersal programs. 10 Quotas for involuntary support would remain high in all areas and initially would probably be moderately 11 12 increased in the northern areas as a result of increased sortie rates against LOC targets in this 13 14 area. The restriction on strikes against fixed targets 15 might, in fact, over the long term, result in additional 16 manpower problems as efforts might be undertaken to restore some high value economic installations when 17 18 it became apparent that they were no longer subject 19 to attack.

20 (2) Electric Power. There would be no strikes against 21 electric power targets conducted under this alternative. Within 60 days, one-fifth of the damaged capacity in the 22 North could be repaired without major reconstruction, 23 resulting in partial operation of the Hanoi, Haiphong West, 24 Viet Tri, and Bac Giang powerplants which are sufficient to 25 26 cover the most essential military and industrial needs. Power could be restored to military facilities. Industrial 27 28 plants presently out of operation, such as the chemical plants in the vicinity of Viet Tri and Bac Giang, and key 29 manufacturing plants in Hanoi and Haiphong could also 30 resume production. Within 6 months, an additional 35 31 percent of the damaged capacity could be recovered, includ- 32 33 ing full restoration of Viet Tri, Bac Giang, and Thai 34 Nguyen steel powerplants and partial repair to Thai Nguyen Uong Bi and Hon Gai powerplants. In approximately one 35

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year, the balance of the damaged capacity could be 1 restored to full operation unless restrikes were autho-2 rized. Within 6 months, all priority military and indus-3 trial installations could obtain adequate electricity for 4 uninterrupted production and, in about one year, the supply 5 of electric power would be restored to about the pre-strike 6 level, furnishing sufficient power to meet all military 7 and industrial requirements. 8

(3) Reduction of Enemy Weapons

(a) Continued air operations throughout the country, 10 with increased emphasis on LOCs in the northeast, would רר 12 probably result in a slightly increased loss of AA weapons because of the heavier concentration of air 13 defenses in this area and additional flak suppression 14 missions. However, this reduction would not initially 15 16 reduce AA defense capabilities in any Route Package since it is believed that adequate ammunition is avail-17 able and the enemy would continue deploying his 18 in-country strength to defense positions essential for 19 the protection of vital LOCs. Soviet and Chinese 20 weapons are believed to be imported largely by land 21 LOC from China. A reduced capacity resulting from 22 concentration on LOCs in the northeast would slow the 23 importation of weapons but would probably not effectively24 reduce the number of weapons available, since they would 25 almost certainly continue to be a high priority import. 26 Moreover, if major routes leading from China were 27 thoroughly interdicted it is likely that NVN would 28 import some weapons through existing open port 29 facilities. 30

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(b) Combat weapons destined for units in the South would probably continue to move the length of the country in sufficient quantities but at a somewhat reduced rate.

(4) <u>Reduction of Enemy Munitions</u>. Initially, munitions expenditures could be expected to remain at approximately the same rate as at present. Increased interdiction of LOCs might cause an eventual reduction of present land imports; however, any significant overall reduction would be unlikely since the continued importation of munitions could be accomplished through the open ports. Over the longer term, if it became necessary because of local shortages resulting from increased effort against the LOCs, the enemy could limit high expenditure rates in AA fire by adopting tactics that would achieve the best results for the amount of ammunition expended. He could cease barrage AA fire and concentrate solely on accuracy, expending only when targets were within effective gun range.

20 (5) Reduction of enemy construction equipment and materials. Most construction equipment and materials 21 22 are imported by sea. Attacks on LOCs out of Haiphong 23 would probably impede the movement of such equipment and 24 materials to their destination. Initially, not much 25 adverse effect could be expected from loss of these 26 imports, but the sustained effects would be more pro-27 nounced. The reconstruction of bomb-damaged transpor-28 tation power and industrial facilities would be retarded.

(6) <u>Ports</u>. There would be no reduction of existing NVN ²⁹
 port capacity unless the increased interdiction of other ³⁰
 transport modes further inhibited the clearance of cargo ³¹



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from the port area, creating congestion and thereby slowing the discharge of cargo. Total NVN estimated maritime port capacity would remain at about 6,000 metric tons per day.

3. Risks

6 a. Communist China. It is unlikely that the Chinese response to Alternative II without closure of the ports would 7 8 go beyond propaganda blasts, increased logistic support, and 9 possibly some provision of some additional engineering and 10 air defense units. The current domestic political struggle has not changed Chinese objectives in Southeast Asia or 11 decreased Chinese combat capabilities. The possibility that 12 the Cultural Revolution could be turned outward against a 13 14 foreign enemy and thus become a unifying force for a foreign 15 adventure cannot be discounted.

16 b. Soviet. Intensified bombing of the LOCs in the north-17 east sector might accelerate Soviet delivery of weapons and 18 equipment, including perhaps some new types. In general, it is believed that the types of weaponry the Soviets are likely 19 to supply during the coming months will be intended to 20 strengthen the air and coastal defenses of North Vietnam and 21 to increase the firepower of both the regular North Viet- . 22 namese forces and the communist forces fighting in the South 23 24 The North Vietnamese would probably at some point press the 25 Soviets for more sophisticated equipment and this would pose 26 a serious problem for the Soviets. They might believe they 27 had to respond to such pressure, especially if hard pressed by North Vietnam and if no break appeared on the political 28 29 horizon. They might provide nonnuclear weapons with additional range and firepower, hoping that the new military 30 31 situation this created would bring about a change in US 32 position. The Soviets would also be concerned that the introduction of new types of weapons and especially their 33 34 use in South Vietnam would provoke further US retaliation

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which they would like to avoid, or even create a situation ٦ which would invite a US invasion of North Vietnam. Never-2 theless, it is believed that there is a good chance that 3 they would provide some of these weapons systems. Beyond 4 supplying equipment, the Soviets could take certain other 5 actions to bolster the North Vietnamese and warn the United 6 States. They might believe, for example, that the provision 7 of limited numbers of volunteers, or of crews for defense 8 equipment or possibly aircraft, would serve as a warning 9 without leading to a serious confrontation. 10

c. North Vietnam. The chances for the continuation of a 11 viable NVN Government would be similar to present conditions.12 It could be anticipated that the Government would continue 13 to carry out the essential functions to permit present level 14 of infiltration and support to VC/NVA in SVN. The NVN would 15 probably at some point press the Soviets for more sophisti- 16 cated equipment. 17

d. <u>Allied</u>. There would be little effect on allied support 18 and attitude as a result of adopting this alternative. 19



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ALTERNATIVE II (Ports Closed)

1. Costs. The rationale used to forecast aircraft and 1 aircrew losses in Alternative I is applicable to this course 2 of action. 3

a. Aircraft Losses.

(1) In this course of action, an initial surge of 5 upward to 2500 attack sorties per month could be required 6 7 to maximize effect and take advantage of favorable flying 8 weather. Initially, a marked increase in the loss rate 9 to approximately the current RP-VI loss rate of 11.04/ 10 1000 sorties would occur, but should decrease to about 11 4.50/1000 sorties. Additionally, a reduction to an 12 average of 2000 sorties in the northern packages should 13 cause downward trend toward an overall loss rate of 14 3.00/1000 sorties.

(2) Since the NVN Air Defense System is totally 15 16 dependent on external logistic support, an effective 17 interdiction campaign against all elements of the import 18 system would result in significant degradation of air 19 defense effectiveness. Thus, on a sustained basis a 20 significant decrease in aircraft loss rates could be expected, with an over-all rate of approximately 2.55/ 21 22 1000.

23 b. Aircrew Losses. Initially, due to the increased 24 exposure in RP-V and VI, an increased number of crews would 25 be downed in a hostile environment, with a resultant decrease in over-all aircrew recovery rates to about 30 26 percent. On a sustained basis, with a reduction in the 27 effectiveness of the air defense system, an environmental 28 improvement would allow greater opportunity for recovery 29 attempts and should provide an improvement in the over-all 30 31 recovery rate.

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Benefits

2. l a. Ability to Move Men and Material. 2 (1) Rail. No significant change from Alternative II 3 (Ports Open) except the capacity of the Haiphong line 4 would be dependent on available clearance facilities 5 from transshipment points developed to provide ship-6 to-shore movement of cargo in the event Haiphong is 7 8 rendered unserviceable. (2) Highway. Conditions described under Alternative 9 II (Ports Open) would be applicable. 10 (3) Waterways. The majority of NVN watercraft are 11 located in Route Packages VIA and VIB. Addi-12 tional strike activity in this area would 13 increase water craft attrition. Moreover, the 14 increased requirements for lighters and other small 15 crafts for unloading operations would impose a further 16 burden on NVN water transport capability. New construc-17 tion and imports would help offset vessel losses, but 18 losses would probably force a shift to smaller, less 19 economical carriers over a sustained period. Hard-to-20 replace vessels such as dredges, large lighters, etc., 21 would probably remain within the sanctuary areas. Imme-22 diate and sustained effects of the increased strike 23 activities would probably cause only a limited reduction 24 in the effectiveness of the waterway system. 25 (4) Air Transport. There would be no substantial 26

change from the situation described under Alternative II 27 (Ports Open). 28

(5) Interdiction of Imports. The initial and 29 sustained effects would be greater than under Alter-30 native II (Ports Open) because of the greater potential 31

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for curtailing seaborne imports. In particular, the economic effects would be accentuated, since foreign shipments of some food and fertilizer likely would be curtailed or delayed. A reduction or delay in the large quantities of fertilizer imports would adversely affect the rice crop to be planted in July and harvested in October. Seaborne shipments of other civil items consisting of metal products, construction equipment, industrial equipment, and material would further curtail production and repair and reconstruction of damaged facilities.

(6) <u>Rail Rolling Stock Inventory</u>. There would be no significant change from Alternative II (Ports Open).

(7) <u>Vehicle Inventory</u>. There would be no substan14
tial change from the situation described under Alterna15
tive II (Ports Open), with the exception that importation
16
of trucks through NVN ports would be severely curtailed.
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(8) POL Stockpile and Movement. Intensification of 18 the effort against LOCs and the closure of the 19 major ports would have a critical initial effect on 20 the NVN POL storage and distribution system. 21 Closure of the port of Haiphong would require NVN 22 to establish an alternate system for the receipt 22 of 95 percent of its POL supply, the amount now 24 received through that port. Such closure possibly 25 could require that the overland routes from China 26 temporarily absorb a portion of the approximately 27 20,000 metric tons per month to maintain NVN 28 POL supplies at their current levels. This action 29 would require close cooperation between the Soviet 30 Union, the source of supply, and China to establish 31 schedules and augment carrier inventories. However, 32



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following initial delays resulting from closure of the port, the sustained effect would be less severe in that lighterage and over-the-beach unloading operations would probably meet NVN's import requirements.

b. Ability to Continue Aggression in SVN

(1) Manpower Dislocation. Continued diversion 6 of about 200,000 full-time and 100,000 part-time 7 workers for repair, reconstruction, and dispersal programs 8 would be required. An additional unknown number would be a required to off-load on over-the-beach and lighterage 10 operations. Involuntary civilian labor quotas would 11 probably be materially raised in the northeast and along 12 coastal areas. Additional management problems would also 13 tend to degrade the enemy's logistic support system. 14

(2) <u>Electric Power</u>. There would be no strikes against 15
electric power targets conducted under this alternative. 16
No change from conditions described under Alternative 17
II (Ports Open) would be anticipated unless 18
restrikes were authorized. 19

(3) <u>Reduction of Enemy Weapons</u>. For this alternative the effects for Alternative II (Ports Open) apply
except that the use of ports to import weapons is
not considered likely; however, NVN could continue
to import weapons by small coastal craft if land LOCs
from China were severely curtailed.

(4) <u>Reduction of Enemy Munitions</u>. Benefits noted
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in Alternative II (Ports Open) apply except that
additional delays and possibly more severe but
localized shortages of ammunition could occur. This
would, in large part, be due to attrition of some
vehicles used to move supplies, coupled with a reduction
or slowdown in the receipt of supplies.

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(5) <u>Reduction of Enemy Construction Equipment and</u>
 <u>Materials</u>. Supplies of non-essential construction
 equipment and materials probably would be substantially
 reduced. Shipping priority would probably be given to
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 more essential commodities.

(6) Ports. The effects of this alternative are 6 directly related to the effectiveness with which the 7 8 ports are closed. Current mining plans of the Joint Chiefs of Staff would prohibit ocean going vessels 9 from entering the port at Haiphong but would not 10 prevent them from anchoring to seaward of the mines. 11 They could then offload their cargo into lighters 12 which would then transit one of the many unmined 13 alternate channels leading to Haiphong or other NVN 14 ports. Shallow water mines would be used to obstruct 15 these alternate channels, and they would be used in 16 large quantities because of the many alternate routes 17 18 available. (The most effective shallow water mine is 19 not yet available in quantities). The lighters, moreover, would be subject to aerial attack between the 20 anchorage and sanctuary areas under present rules of 21 engagement. Aerial attacks against port facilities 22 23 within sanctuary areas would force NVN to resort to the use of numerous dispersal transshipment sites to 24 offload the lighters. This type of over-the-beach 25 operation would be considerably more difficult and 26 27 time consuming than along-side discharge methods, 28 especially for heavy, large-type cargo. Furthermore, operations at transshipment sites and accumulations 29 of cargo awaiting transshipment would be subject to 30

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air attack. Over a sustained period it is unlikely that NVN could recover their full maritime receiving capabilities; however, that will be a direct function of the efficacy of the shallow water mines laid and of the intensity and effectiveness of airstrikes conducted. 1 2

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3. () <u>Risks</u>

a. Communist China

9 (1) The Chinese reactions to this alternative almost certainly would include attempts to increase the level 10 of logistic support in an effort to compensate for 11 restrictions imposed on seaborne supply by the closure 12 of the ports and the interdiction of mainland routes. 13 14 Chinese efforts to improve the overland supply routes to North Vietnam would be increased. The Chinese 15 16 might also furnish additional antiaircraft weapons and possibly more Chinese AAA units to bolster North 17 18 Vietnam's air defenses, in particular those along the 19 major land LOCs from the border south to Hanoi. Additional Army railway-engineer units might be deployed 20 into northern North Vietnam to assist in railroad and 21 22 route repair. However, it is unlikely that the 23 Chinese would commit their air force to the defense

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of North Vietnam, although South China airbases might become refuge havens for North Vietnamese aircraft.

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3 (2) Within China itself there would be a greater 4 tendency to increase its war footing, and civil defense 5 measures may be emphasized once more. South China 6 defenses would probably be strengthened by the deploy-7 ment of additional AA units and possibly ground 8 forces to strengthen the defensive posture along the 9 border. The maximum effort to halt sea shipments 10 into North Vietnam would probably also require Peiping to review its position vis-a-vis the Soviets 11 12 on aid shipments to North Vietnam. Soviet ships could offload in some Chinese ports, such as Canton 13 or Fort Bayard for transshipment to North Vietnam. 14 Such increased US pressure may lead Peiping to delineate 15 more clearly its supposed intentions. 16

b. Soviet

(1) It is believed that the Soviets would, at some
point, suspend various negotiations and contacts with
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the United States and perhaps certain agreements of
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recent months. At a minimum, they would try to mobilize
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world opinion against the United States on this issue
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and, depending on the attitude of NVN, would consider
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taking the matter to the United Nations.

(2) There is little that the Soviets could do on the scene if confronted with this kind of situation. They do not have the strength in the area to confront the United States with a major military challenge, and it is not believed they would wish to run large risks simply in order to harass US forces or gain temporary respite. In the case of mining, for example, the Soviets could try to reopen shipping

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routes by bringing in minesweepers, other naval ships for protection, and air cover from North Vietnam. But this would be a hazardous venture since the United States could continue to sow mines by air and the Soviets could not prevent it unless they were prepared to begin a major naval and air war. It is believed that they would not risk their shipping in mined waters but would attempt the necessary supply by other means; e.g., through China or by lighterage. Most important, it is not thought that the Soviets are prepared to resort to strong and direct threats of general war as a means to protect North Vietnam or to preserve Soviet face.

(3) Regardless of the precise action taken by the 14 United States, the Soviets might at some point exert 15 16 pressures on the United States outside of Southeast Asia. Heightened tensions in Korea and new troubles 17 in the Middle East are possibilities, but Berlin is 18 the most plausible pressure point; US interests 19 there are directly engaged and vulnerable, and the 20 USSR could be surer of controlling the action. They 21 might consider that only minor pressure on access 22 routes would be enough to create the impression of an 23 24 impending crisis; however, it is thought to be unlikely 25 that the Soviets would want to take the risk of pro-26 voking by such pressures a major and generalized crisis which would not only undercut their policies 27 28 in Western Europe but could also lead to a US/Soviet confrontation. 29

(4) There would be a good chance that the Soviets would at some juncture exert strong efforts toward a political solution of the Vietnam problem. They would have to weigh the risks of some level of

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1 confrontation with the United States against their reluctance to put real pressure on Hanoi for such a 2 3 solution. They would almost certainly urge the course 4 of negotiation more vigorously than they have heretofore, but they would probably not be willing to make Hanoi's 5 acceptance of talks an explicit condition of con-6 tinued material support. If negotiations did get 7 8 underway they would, of course, still bend every effort to obtain terms which gave Hanoi hope of 9 eventually achieving its aims. 10

c. North Vietnam. Initial condemnation of the war 11 escalation could be anticipated. This would probably 12 result in a request for additional aid from both Red China 13 and the USSR. Initially there would be a stiffening of 14 the will to resist on the part of high officials as well 15 as the populace; however, the sustained effects would 16 result in a gradual degradation of the will and morale 17 of the populace. The risk of degrading the viability 18 of the NVN governmental processes would be increased 19 under the conditions of this alternative. Sustained 20 effects would make it increasingly difficult for the 21 Government of North Vietnam to carry out necessary govern-22 mental functions at present levels. This degradation 23 would not be to a degree that would threaten the full 24 collapse of the NVN Government. 25

d. <u>Allied</u>. Additional support from our Asian Allies 26 could be expected under the conditions of this alternative. 27 The increased US resolve indicated by these actions 28 would jointly increase the commitment of the United States 29 and our Asian Allies; however, some concern would be 30 expressed over this apparent escalation. 31

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ALTERNATIVE III

1. <u>Costs</u>. The rationale used to forecast aircraft and aircrew losses in Alternative I is applicable to this course of action.

a. Aircraft Losses

(1) In this course of action, an initial surge of 5 upward to 2,500 attack sorties per month could possibly 6 be required to maximize effect and take advantage of 7 8 favorable flying weather. Initially, a marked increase in the loss rate to approximately the current Route 9 Package VI loss rate of 11.04/1000 sorties would occur 10 similar to that forecasted for Alternative II (Ports 11 Closed), but should decrease to about 4.50/1000 sorties. 12 Additionally, a reduction to an average of 2,000 attack 13 sorties in the northern packages should cause a downward 14 trend toward an overall loss rate of 3.00/1000 sorties. 15

(2) Since the NVN Air Defense System is totally 16 dependent on external logistic support, an effective 17 18 interdiction campaign that would certainly destroy imports at the periphery of the port areas should allow 19 20 for slight degradation of air defense effectiveness. Thus, on a sustained basis a loss rate of 3.00/1000 21 sorties is expected to be maintained, with a possibility 22 that it might be further reduced to approximately 23 24 2.55/1000 sorties.

b. <u>Aircrew Losses</u>. Initially, due to the increased 25 exposure in Route Packages V and VI, an increased number 26 of crews would be downed in a hostile environment with a 27 resultant decrease in over-all aircrew recovery rates 28 to approximately 30 percent. 29

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2. Benefits	1
a. Ability to move men and material	2
(1) <u>Rail</u> . Essentially the same benefits would be	3
obtained and results achieved as under Alternative II	4
(Ports Open); however, access to the major Hanoi-	5
Haiphong yards in fixed target strikes,	6
would disrupt terminal operations, loading, delivery	7
and scheduling, and thus impose additional delays and	8
contribute to congestion of the distribution system.	9
(2) <u>Highway</u> . Benefits obtained and results achieved	10
would be essentially the same as under Alternative II	11
(Ports Open); except that destruction of fixed LOC	12
targets within the Hanoi-Haiphong area	13
would further delay and disrupt scheduled movement	14
from these main import and base areas.	15
(3) <u>Waterways</u> . Benefits obtained and results achieved	16
would be greater than under Alternative II (Ports Open),	17
because of the introduction of a mining program in	18
the estuaries and inland waterways above 20 $^{ m O}$ N thereby	19
increasing the attrition of watercraft and disrupting	20
movement over this medium. In addition, emphasis on an	21
armed recce program against LOCs in the Hanoi-Haiphong	22
environs (but outside the restricted areas) would further	23
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3 24 increase the watercraft attrition, contribute to con-25 gestion in the port area, and over the sustained period, probably force a shift to smaller less economical carriers.26

(4) Air Transport. As under Alternative II (Port 27 Open or Closed), attacks on NVN airfields under this 28 alternative could eliminate a significant airlift 29 capability by the Soviets or Chinese. 30

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(5) Interdiction of Imports. The initial and sustained effects would be about the same as Alternative II (Ports Open). However, with strikes authorized on fixed targets, some additional imports of military and civil commodities would be required. Eventually, with traffic on the northeast rail line and out of Haiphong impeded, choices would have to be made on which commodities would be moved to their destination. Priorities would probably be given to military shipments with resultant increased 10 dislocations in the civilian economy. 11

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(6) Rolling Stock Inventory. The results obtained 12 under Alternative II (Ports Open) also would be 13 achieved under this Alternative. However, in addition, 14 an increased armed recce program in the northeast 15 and access to the major yards in Hanoi and Haiphong, 16 where the largest concentrations of rolling stock 17 are normally found, would result in increased attrition 18 of NVN's rolling stock inventory, the most vulnerable 19 element of the rail transport system. 20

(7) Vehicle Inventory. The effects of an increased 21 emphasis on armed recce in the northeast would be 22 essentially the same as under Alternative II (Ports 23 Open); however, the motor vehicle attrition rate would 24 probably rise. Although additional trucks to offset 25 this loss could be imported by sea or from China, the 26 initial disruption to essential transportation require-27 ments in the Hanoi-Haiphong area would be severe until 28 such time as additional imports could be scheduled. 29 Over the sustained period the continued harassment would 30 impose increased strains on limited maintenance skills 31 and facilities. 32

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(8) POL Stockpile and Movement

(a) Continued bombing of fixed targets and concentration of the effort against LOCs in the north, excluding operations against the ports, would have a considerable effect on the NVN POL distribution system and on available reserves, despite the effectiveness of the dispersal program.

(b) As indicated under Alternative II (Ports Open), extensive interdiction of the Haiphong to Hanoi rail 9 line could induce the rerouting of up to 40 percent 10 of the country's total monthly supply, while a 11 similar disruption of the Dong Dang line from the 12 Chinese border to Hanoi would effect the flow of 13 critical aviation fuels and lubricants which are 14 believed to be imported primarily along this route. 15

(c) Extensive rerouting, increased handling difficulties, higher consumption and decreased efficiency would probably result from the air operations under this alternative.

b. Ability to Continue Aggression in SVN

(1) Manpower. Some additional manpower dislocations 21 would occur over those indicated under Alternative II 22 (Ports Open). The effect would be felt more heavily 23 in the Haiphong-Hanoi area where efforts to clear port and 24 distribution center congestion could result in higher 25 labor quotas. Authorization of strikes on significant 26 fixed targets in these areas would further dislocate 27 the population through renewed government effort to 28 evacuate nonessential persons. 29

(2) Electric Power. Strikes against electric power targets conducted under this alternative would have approximately the same benefits as in JCS recommended action.

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(3) Reduction of Enemy Weapons. Benefits obtained and results achieved would be somewhat greater than under Alternative II (Ports Open).

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(4) <u>Reduction of Enemy Munitions</u>. Benefits obtained and results achieved would be approximately the same or slightly greater than under Alternative II (Ports Open).

(5) <u>Reduction of Enemy Construction Equipment</u> and <u>materials</u>. Benefits obtained and results achieved would be somewhat greater than under Alternative II (Ports Open).

(6) Operation of Port Facilities. Benefits obtained and 11 results achieved would be increased over Alternative II 12 (Ports Open), as a result of increased congestion in and 13 adjacent to ports and disruption of transshipment facilities. 14
3. (TS) <u>Risks</u> 15

a. Communist China. It is probable that the Chinese 16 response to this alternative would be to provide increased 17 logistic support, and additional engineering and air defense 18 units. The extent of the increased support would be influenced 19 by the degree of disruption and damage inflicted on the 20 principal land LOCs with China. The Chinese reaction to this 21 alternative thus would be somewhat greater than in the 22 case of Alternative II without closure of the ports but the 23 risk would be less than if the ports were closed under 24 Alternative II. They would recognize this alternative as 25 an increase over the present level of bombing but falling 26 short of a maximum effort. 27

b. <u>Soviet</u>. This alternative would be viewed by the Soviets 28 as an intensification of the present bombing program which 29 continued to include constraints to preclude direct confrontation30

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between the United States and the Soviet Union. Soviet 1 delivery of weapons and equipment, including perhaps some 2 new types might be accelerated. The types of weaponry the 3 Soviets might supply would be intended to strengthen the 4 air and coastal defenses of North Vietnam and to increase 5 the firepower of both the regular North Vietnamese forces 6 and the communist forces fighting in the South. Eeyond 7 8 supplying equipment, the Soviets could take certain other actions to bolster the North Vietnamese and warn the United 9 States. They might believe, for example, that the provision 10 of limited numbers of volunteers, or of crews for defense 11 12 equipment or possibly aircraft, would serve as a warning without leading to a serious confrontation. Other Soviet 13 14 responses would probably be similar to those of Alternative 15 II (Ports Open).

The chances for the continuation of a 16 c. North Vietnam. 17 viable NVN Government under this alternative would be 18 degraded somewhat when compared to present conditions. Ιt 19 could be anticipated that the Government would continue its efforts to maintain the present level of infiltration 20 and support to VC/NVA in SVN. NVN would probably 21 22 request some additional Chinese communist support in the logistical, engineering and AA categories, to be stationed 23 24 along major LOC's in the northeast sector.

d. <u>Allied</u>. There would be little effect on allied support 25 and attitude as a result of adopting this alternative. 26 However, the adoption of a more intensive campaign against 27 NVN would be a clear signal of US resolve and thereby have 28 a heartening effect, particularly on SVN and other FWMAF 29 nations. 30

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JCS RECOMMENDED ACTION

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COD RECOMMENDED ACTION	
1. <u>Costs</u> . The rationale used to forecast aircraft]
and aircrew losses in Alternative I is applicable to this	2
course of action. Both aircraft and aircrew attrition are	3
expected to be similiar to Alternative II (Ports Closed).	4
2. Benefits	5
a. Ability to move men and materiel	6
(1) <u>Rail</u> . No significant change in effects from	7
Alternative II (Ports Closed).	8
(2) Highway. Conditions described under Alterna-	9
tive II (Ports Closed) are applicable.*	10
(3) Waterways. Conditions described under Alter-	11
native II (Ports Closed) would be applicable.	12
(4) Air Transport. There would be no substantial	13
change from the situation described under conditions	14
of Alternative II (Ports Open or Closed)	15
(5) Interdiction of Imports. The military	16
and economic effects would be approximately the same as	17
described under Alternative II (Ports Closed).	18
(6) Rail Rolling Stock Inventory. No significant	19
change in effects from Alternative II (Ports Closed).	20
(7) Vehicle Inventory. There would be no substantial	21
change from the situation described under Alternative	22
II (Ports Closed).	23
(8) POL Stockpile and Movement. Essentially the	24
same effects as discussed under Alternative II	25
(Ports Closed). However, with strikes authorized against	26
fixed POL facilities, additional losses of storage	27
capacity or inventory levels could induce major	28
reductions in both military and general economic	29
activity.	30
b. Ability to Continue Aggression in SVN	31
* EXCEPT that the oppongion of the	

* EXCEPT that the expansion of the mining program above 20° N would increase the attrition rate of watercraft, the most vulnerable factor in this transportation medium.

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(1) <u>Manpower Dislocation</u>. No significant change in manpower dislocations could be expected from conditions under Alternative II (Ports Closed).

(2) Electric Power. This alternative would continue 4 5 to severely restrict availability of commercial electricity 6 to military and industrial installations. Vital military 7 functions, including operations of radar, SAM sites, 8 and communications, would be entirely dependent on small .9 diesel stations, resulting in considerably reduced relia-10 bility over extended periods of use and excessive break-11 downs of power supply due to increased maintenance 12 requirements. Industrial production would be reduced 13 by as much as 70 percent as a consequence of lack of 14 electric power, particularly significant items such as 15 chemicals, cement, other construction materials, food 16 products, and consumer goods.

(3) <u>Reduction of Enemy Weapons</u>. The effects listed 17 for Alternative II (Ports Closed) would prevail. 18

(4) <u>Reduction of Enemy Munitions</u>. For this alternative 19
the effects listed for Alternative II (Ports Closed) would 20
prevail.

(5) Reduction of Enemy Construction Equipment and22Materials. No significant change in effects from23Alternative II (Ports Closed).24

(6) Ports. Conditions described under Alternative II 25
(Ports Closed) would prevail. 26

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3	Risks
	a. Communist China. The risks of this alternative are
r	oughly equivalent to Alternative II (Ports Closed).
	b. <u>USSR</u> . The risks of this alternative are roughly
ec	quivalent to Alternative II (Ports Closed).
۰.	c. North Vietnam. The risk under this alternative

7 would be roughly the same as the Alternative II (Ports 3 Closed); however, the rate of degradation of the will and morale of the populace might increase. It is antici-.9 pated that the Government of North Vietnam could continue to 10 function without the interference of Communist China in 11 governmental processes; however, the likelihood that the 12 NVN Government would consider negotiation as a solution 13 to their problem at some point would substantially be 14 enhanced. Historically, the communists, when confronted 15 with an inevitable military defeat, have retreated to a 16 political solution. 17

d. Allied. A continuation of the trend cited under 18 Alternative II (Ports Closed) could be anticipated. 19

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