

MEMORANDUM

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DIA review completed

MEMORANDUM FOR DR. KISSINGER

FROM: Laurence E. Lynn, Jr.

SUBJECT: U.S. Denial of North Vietnam's Imports

Last fall, I participated in an effort to evaluate the effectiveness of various campaigns aimed at denial of North Vietnam's imports. This memo summarizes the findings.

North Vietnam's Import Requirements

North Vietnam is highly dependent upon imports to maintain its economic and military activities. For example, during FY 1969 North Vietnam's 2.2 million tons of imports provided:

-- 890,000 tons of foodstuffs or one fifth of North Vietnam's total food consumption;

-- 333,000 tons of petroleum products; North Vietnam's only supply of gasoline;

-- 50,000 tons of military equipment and munitions; prime source of supply for the NVA/VC forces in North and South Vietnam.

These imports are provided in roughly equal volume by the Soviet Union and Communist China (40 percent each) with the remainder coming largely from Eastern Europe. The Soviet Union provides one-third of North Vietnam's imported foodstuffs, almost all of its petroleum, and about half of its other imports. The Communist Chinese imports consist largely of foodstuffs though China also provides some combat material and industrial products to North Vietnam.

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### Alternative Denial Campaigns

The denial of imports to North Vietnam might be accomplished in a wide variety of ways. For purposes of analysis, I assumed that one of two principal strategies would be followed:

-- A mining and naval blockade campaign that would effectively close North Vietnam's entire coastline to seaborne traffic.

-- An air and naval interdiction campaign throughout North Vietnam in addition to a full coastal blockade.

Under both campaigns, I also assumed that:

-- The Soviets and Chinese would continue to cooperate with each other in the provision of assistance to North Vietnam.

-- The North Vietnamese effort to maintain their imports, in the face of a denial campaign, would not be limited by the internal weakness of the Hanoi government.

I am in no position to judge the present validity of these assumptions. Moreover, the imposition of a coastal blockade in addition to interdiction at past levels would create a situation in North Vietnam quite different from that caused by our 1965-1968 interdiction campaign. If there were corresponding changes in the enemy reaction, the effectiveness of our denial campaign could be materially different from what we now anticipate based on our past experience.

### Denial of North Vietnam Seaborne Imports

Assuming that Haiphong and North Vietnam's other ports were completely closed, North Vietnam would be forced either to divert its import traffic to overland routes (see Tab A for map of routes) or reduce its imports.

If they attempted to divert all seaborne traffic to overland routes, this traffic at annual rates would consist of:

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-- the 300,000 tons of imports, including 50,000 tons of munitions and military equipment, previously shipped on the overland routes;

-- the 1,900,000 tons of imports, principally foodstuffs and petroleum, previously seaborne to North Vietnam.

Considering both existing and diverted traffic, the overall load would be about 2.2 million tons or 6,100 tons per day on an annual basis.

#### Overland Routes Within the USSR

In the first instance, the impact of this increased load would be on Soviet transportation capabilities.

-- The 70 percent of present Soviet seaborne trade with North Vietnam which is now shipped out of Vladivostok is already a part of the established traffic flow on the Trans-Siberian railroad. Diversion of this traffic from Vladivostok to the Chinese border would require little additional effort for the Soviets.

-- The remaining 30 percent (1,200 tons per day) now shipped out of European ports would be diverted to the Trans-Siberian route used by most existing traffic. The additional burden on the Trans-Siberian line, which is estimated to have a minimum capacity of 50 trains or 100,000 tons each way per day, would be relatively light.

Overall, the movement of all Soviet material provided to North Vietnam by overland routes would require utilization of well below 5 percent of the existing capacity of Soviet railroads. Because rail traffic to China has declined drastically in recent years and is now well below existing rail capacity, this additional capacity would be available at little sacrifice. Moreover, the transshipment areas between the Soviet and Chinese railroad systems also have excess capacity and the reloading of cargoes on Chinese railcars should not cause significant delays. The CIA judges that the complete diversion of Soviet traffic to overland routes could be accomplished in about two weeks.

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Overland Routes Within China

From the Soviet border, the convergence of Soviet and Chinese aid to North Vietnam on the Chinese railroads would add about 5,300 tons, including 1,000 tons per day of petroleum, to its existing burden of about 800 tons per day already carried to North Vietnam. This additional burden would require:

-- the diversion of 1700 freight cars and 350 petroleum tank cars to support North Vietnam's trade. In each case, this relocation would be less than two percent of China's existing inventory.

-- the utilization of about half of the 11,400 ton per day capacity of the major direct rail route, via Kwangsi Province, to North Vietnam's border at Dong Dang. In addition, other less direct routes are also available.

Thus, CIA and DIA agree that North Vietnam's 1969 level of imports (about 6,100 tons per day) could be moved entirely overland to North Vietnam's border without significantly straining Soviet or Chinese capabilities. While the management of the shift in traffic might be complex, the CIA believes that the higher level of overland traffic could be handled within four to six weeks, slightly longer than the two weeks required for Soviet adjustment alone.

The Sea/Overland Option

While North Vietnam's allies could supply its entire import requirement overland, they might choose to use a combined sea and overland route because of the greater efficiency of seaborne traffic.

The mechanics of this strategy would be to land at the Chinese port of Fort Bayard the 3,600 tons of dry cargo and 900 tons of petroleum per day that would otherwise be landed at Haiphong. This traffic,

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along the cargo (700 tons per day) previously shipped from ports in South China, would then be moved overland to North Vietnam.

This combined sea/overland route would enable the Soviet Union and China to meet North Vietnam's import needs with about the same strain as a completely overland route:

-- The capacity of Fort Bayard's port is 5,080 tons of dry cargo per day at the minimum. The daily average of 3,600 tons of diverted cargo would be only about 70 percent of this capacity.

-- The 900 tons per day of diverted POL would represent only 7 percent of Fort Bayard's POL unloading capacity and an even smaller fraction of its storage capacity.

Once landed in Fort Bayard, the diverted cargo would be moved by rail to the Chinese border with North Vietnam. The 4,500 tons per day of cargo that would move from Fort Bayard would utilize less than 1 percent of the Chinese inventory of rail cars and locomotives and absorb about 75 percent of the daily capacity (6,000 tons) of the single most-direct rail line from the port to the North Vietnamese border.

The limiting capacity would be at Fort Bayard, however, because any shortage of rail capacity could be overcome by trucking or the improvement in the railways. Consequently, North Vietnam's total imports could be easily handled by a sea/overland as well as entirely overland routes.

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Movement from the Chinese Border

From the Chinese border, the North Vietnamese transportation system has a combined rail, road and water route capacity of almost 16,000 tons per day during the dry season and 13,000 tons per day during the wet season. These overall capacities are, as shown below, more than twice the 6,000 tons of cargo per day that North Vietnam imported during FY 1969.

	<u>Tons Per Day</u>	
	<u>Dry Season</u>	<u>Wet Season</u>
Daily Imports	6,000	6,000
Route Capacities		
Railroads	9,000	9,000
Roads	5,400	2,300
Rivers	<u>1,500</u>	<u>1,500</u>
Total Capacity	15,900	12,800

The CIA and DIA agree that there is ample route capacity for North Vietnam to carry all its imports overland provided it is able, with Soviet and Chinese assistance, to maintain the number of carriers required.

North Vietnam rail capacity would not be limited by the present number of locomotives (115-130) or freight cars (2,000-2,300) in its inventory, because the movement of 6,000 tons per day would require at most 800 freight cars, about 40% of North Vietnam's present car inventory.

There is some disagreement within the intelligence community, however, over whether throughput on the rail lines within North Vietnam might be less than theoretically possible, given their capacity and the availability of carriers.

-- The CIA finds it likely that China would provide rolling stock to offset any North Vietnamese shortages and enable the rail lines from China to operate at full capacity (9,000 short tons daily) if necessary.

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-- The DIA determined that "traffic considerations" and equipment availability would probably limit sustained capacity to 6,000 tons daily.

However, the CIA and DIA agree that, without U.S. interdiction, the rail system of North Vietnam can alone carry all imports by overland routes in spite of possible shortages of equipment. North Vietnam's trucks and riverways would further supplement its rail capacity.

#### A Combined Blockade and Interdiction Campaign

The U.S. could resume an all full-scale interdiction campaign against North Vietnam's internal transportation in addition to blockading its coast. This would increase the pressure on North Vietnam by destroying a portion of its imports, degrading the capacity of its transportation network, and destroying the carriers used by it.

Because the rail routes from China provide about two-thirds of North Vietnam's overland import capacity, the success of a U.S. interdiction effort against them would be the key determinant of its overall effectiveness. There are two main rail routes from China crossing North Vietnam's border at Dong Dang (6,000 ton per day capacity) and Lao Cai (3,000 ton per day capacity).

As DIA points out, the U.S. experience with its interdiction effort in 1967 was that:

-- The Dong Dang line was attacked with a maximum effort (400 to 500 sorties monthly). However, the North Vietnamese were able to maintain traffic at night-time capacity levels with only temporary interruptions.

-- The Lao Cai line was attacked by 200 to 300 sorties monthly. While the North Vietnamese did not try to fully offset U.S. bomb damage (they did not need the capacity) they were able to maintain capacity at about two-thirds of its night-time level.

On the basis of this experience, DIA concludes that a 1967-type bombing campaign might reduce the railway's potential throughput

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by half forcing the North Vietnamese to use their rail lines only at night or in bad weather. To reduce throughput below this level, however, DIA finds that every major bridge and its bypasses would have to be destroyed and traffic interdicted on a 24 hour basis - a campaign not possible given current limits on the capability of U.S. aircraft to operate at night and in bad weather.

If the U.S. interdiction campaign failed to reduce rail throughput below its night-time capacity of 4,500 tons per day, as DIA and CIA expect, North Vietnam's road and waterway route could easily carry the remaining 1,500 tons per day of the 6,000 tons required by North Vietnam. For example,

- DIA estimates that an interdiction campaign could at best reduce North Vietnam's road capacity and truck fleet by 40% leaving North Vietnam a capability to move at least 2,000 tons per day by road.

- DIA finds that no feasible interdiction campaign could reduce the inland waterway capability from China to Hanoi below 1,000 tons daily.

Through its rail, road, waterway networks, North Vietnam could, even under a heavy bombing effort, probably move at least 7,500 tons daily from the Chinese border - an amount 25% greater than its total imports during 1969. Thus, a strong U.S. interdiction effort, even when combined with an effective naval blockade of North Vietnam, will not effectively deny North Vietnam its present level of imports if North Vietnam chooses to maintain them.

Though such a campaign might well limit large increases in the level of North Vietnam's imports, the North could in the long run:

- Partially surmount a naval blockade through active counter-measures and the use of large scale lightering and over-the-beach unloading. DIA does not believe, for example, that a total closure of Haiphong or North Vietnam coast is possible if the North Vietnamese use the countermeasures available to them.

- Greatly increase the capacity of its road net from China or build alternative routes to South Vietnam through Laos. DIA and CIA

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believe that "new routes" would most likely be developed and used to offset the effects of interdiction and blockade.

Through these measures, North could probably overcome any interdiction-imposed limit on increases in their logistical flows though their cost in casualties and lost material would be substantially increased.

Moreover, even if increases in overall imports were limited, it would probably have very little effect on North Vietnam's ability to increase its military activity in Laos or South Vietnam, because:

-- the military equipment and munitions required to support North Vietnam's war effort are only about 2 percent of its total imports.

-- the quasi-military supplies (petroleum, trucks, construction materials) directly-related to the war effort certainly constitute much less than half of North Vietnam's overall imports.

Because its military requirements constitute only a portion of its total imports, North Vietnam could probably accept limitations or even reductions in its import levels without affecting its war effort. For example, with marginal reductions in their total imports, the North Vietnamese could increase their military imports by reducing their imports of goods for civilian use (food, some construction materials, and fertilizer).

Likewise, at the margin, there is no necessary connection between the level of North Vietnam's imports and the scale of its activity in South Vietnam because:

-- The external supply requirements of the VC/NVA forces in South Vietnam are about 100 tons per day or less than two percent of North Vietnam's total imports.

-- The North Vietnamese have built up very large stockpiles of vital military supplies in North Vietnam and Laos.

Because of the low requirements and large stockpiles of the NVA forces, marginal reductions in overall imports to North Vietnam

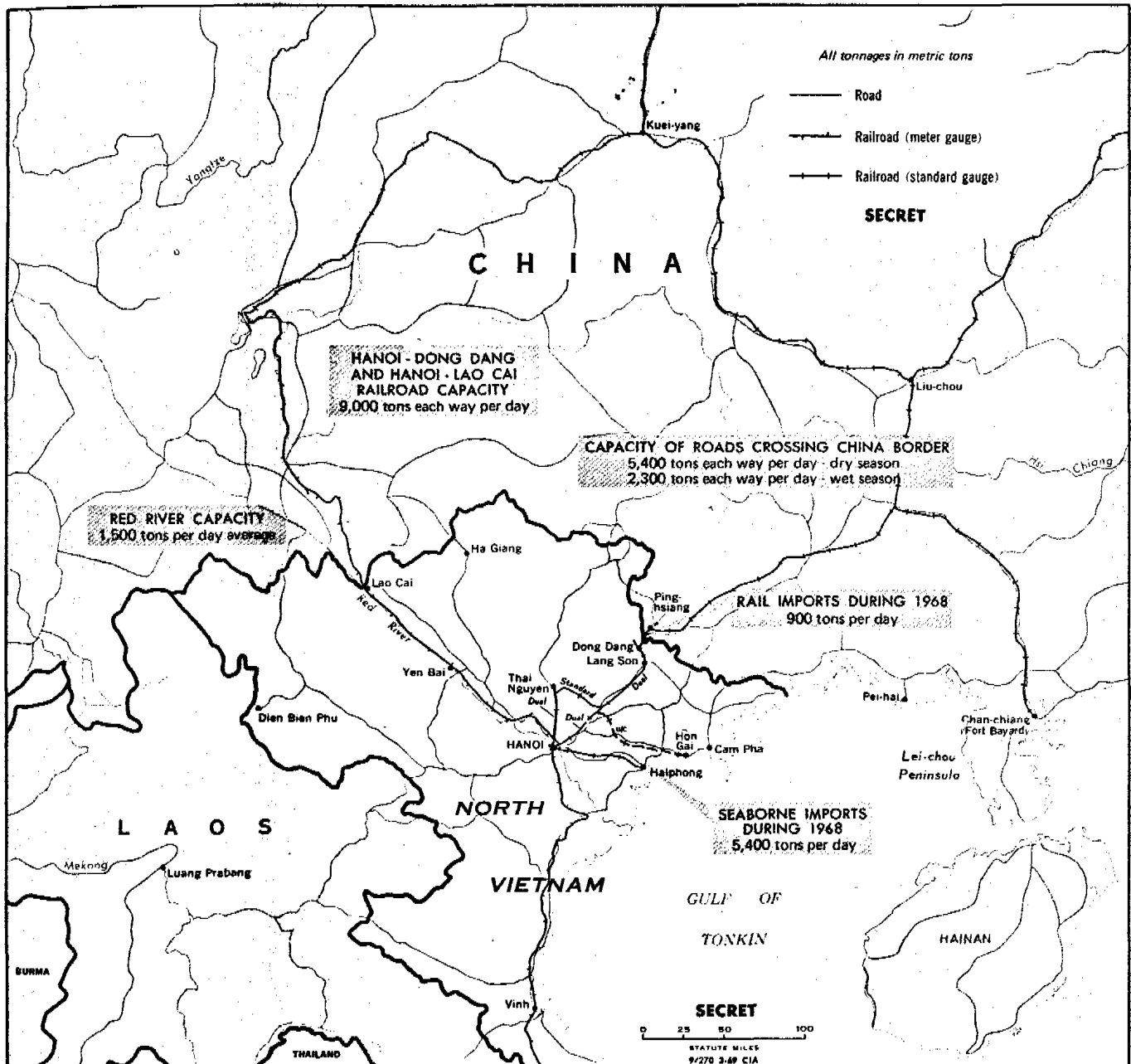
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would probably have no long term effect on the availability of  
resources in North Vietnam to support VC/NVA activity in South  
Vietnam.

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NORTH VIETNAM and SOUTH CHINA: Selected Transportation Facilities