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MEMORANDUM

Response to Questions on Soviet/PRC Airlift
Capabilities to North Vietnam, Introduction of New Weapons,
and Use of PRC Airfields

Question A. USSR/PRC Airlift Capabilities

1. What is the capacity of the PRC and the USSR to airlift to NVN? How many aircraft suitable for airlift operation does each nation have? (What portion of total Soviet airlift capability would be utilized to deliver the estimated maximum 1,540 metric tons per day?)

The USSR, and to a lesser extent the PRC, each have an independent capability -- aircraft, staging airports, and trained manpower -- to institute an airlift to NVN. The extent of this capability as measured against the limitations on available aircraft, airports, routes, and serviceability is discussed below. Rather than taking the 1540 tons as a given, we have worked through the methodology not only to answer the specific questions asked but to check on the validity of the 1540 ton estimate itself.

a. USSR

The USSR has some 2,900 high-performance transport aircraft in their combined military and civil inventories (see Table 1). Because of operational range and cargo carrying capacity however, it is probable that only the medium transport AN-12s and heavy transport AN-22s would be used in such an airlift and that only aircraft in the military inventory would be involved.

GROUP 1
Excluded from automatic
downgrading and
declassification

Moreover, for this analysis we assume only 385 AN-12s (of a total inventory of 963 aircraft of this type) and 10 AN-22s (of a total of 22) would be made available because of other military requirements. The following tabulation shows the cargo carrying capacity of this fleet of 395 aircraft, assuming one round trip per aircraft per day, and an 85% utilization factor for the first week, 75% the next week, and 50% thereafter.*

<u>Time Period</u>	<u>Total Per Day</u>			<u>Weekly Total</u>
	<u>AN-12**</u>	<u>AN-22**</u>	<u>Daily Total</u>	
1st seven days	2,350	700	3,050	21,350
2nd seven days	2,100	600	2,700	18,900
After 14 days	1,200	400	1,600	11,200

Under these conditions, the cargo carrying capacity of this fleet would permit over 40,000 tons of cargo to be airlifted during the first two weeks and more than 11,000 tons per week thereafter. We estimate that on a 50% utilization rate the USSR could probably maintain its airlift effectively for about 4 to 6 months during which period carriage would approximate 1,600 tons per day.***

* These utilization factors reflect historical experience of other Soviet airlift operations including those noted in field exercises within the Soviet Union. (See paragraph 2.)

** For the purposes of this estimate we have assumed that the AN-22 will carry its maximum payload of 88 tons and the AN-12s will carry a little over 7 tons. These loadings would permit either aircraft to fly non-stop to NVN. (See paragraph 4.)

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b. PRC

Any airlift mounted by the PRC would essentially be a short haul operation. Nonetheless, such an operation would be hampered by the overall mix of available aircraft which is relatively obsolete and has limited cargo carrying capacities. For example, the PRC's combined military and civil air transport inventory numbers some 750 aircraft. Of this number, more than 60% (480) consist of the single engine AN-2 with a range of about 900 miles and a cargo capacity of 1.5 tons. An additional 63 are made up mainly of the twin engined LI-2 which can carry only about 3 tons and has a range of about 1200 miles. Ten other relatively modern aircraft, three Tridents and seven Vicounts, are excluded from consideration in this analysis because of their key role in Chinese civil and military air operations. We are, therefore, left with only about 207 aircraft for any airlift operation (see table 2). For this estimate we assume no more than one half of these aircraft (by type and subordination) would be made available for such an airlift. A larger allocation probably would cause massive dislocations of regular civil and military air traffic within the PRC. With these some 100 aircraft the PRC would be able to mount a relatively efficient airlift using close in staging bases in South China -- Kunming, Nanning, Ning Ming, and Fort Bayard. The following tabulation postulates the cargo carrying capacity for these aircraft subject to the same serviceability constraints applied to the Soviet fleet.*

<u>Time Periods</u>	<u>Tons per Day</u>	<u>Tons per Week</u>
1st week	600	4,200
2nd week	525	3,675
After 14 days	350	2,450

* Although the PRC would be operating older aircraft, their airlift would entail considerably shorter flight time. On this basis no changes were made in serviceability rates. In all cases the maximum cargo payload was used as the basis for calculations.

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We estimate that during the first two weeks the PRC could move in about 8,000 tons of cargo and nearly 2,500 tons per week thereafter. At a 50% utilization, the PRC could probably maintain its airlift for about 3 to 5 months. At its peak the airlift could deliver about 600 tons per day which would be nearly halved after only two weeks.

2. What limiting factors exist in using PRC and USSR aircraft for airlift purposes?

Factors limiting the use of Soviet and PRC aircraft have been mentioned and taken into account in the estimates presented above. The constraints on aircraft serviceability may, indeed, be the single most important factor, particularly as they may affect the Soviet program because of its long haul nature. To the extent that aircraft suffer increasing levels of down time as the airlift proceeds, additional aircraft would either have to be added to the program or would have to be rotated in and out of the effort. Taking into account respective inventories, the USSR has greater flexibility than does the PRC.

3. What air routes and air terminal points might be utilized (including through India for USSR flights)?

The Soviet airlift could operate over two possible routes -- one via Tashkent-India-Burma-Laos and a second via Irkutsk transiting PRC airspace. Of the two, only the PRC route would be realistic; the distances (7,400 miles roundtrip) involved in the India route would reduce cargo carrying capacity by more than one half. The China route entails a roundtrip of about 5,000 miles. The effort could be launched from staging airports such as Tashkent, Omsk, Semipalatinsk, Novosibirsk, Usol'ye-Sibirskoye, and Irkutsk. The AN-22 aircraft would likely be operated from a single airport, probably Irkutsk. The AN-12s could operate from any or all of these six airports, but likely would be concentrated at one or two, including Irkutsk. Both aircraft would require a refueling stop either in North Vietnam or more likely at airports in southern China -- Kunming, Nanning, Ning Ming, and Fort Bayard. The terminal points in North Vietnam would be a few airports such as Yen Bai and Phuc Yen, but possibly including Cat Bai, Hanoi/Gia Lam, Kep, and Kien An. Because

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of required runway length, the AN-22s would probably be limited to operating into Phuc Yen airport; the AN-12s could use all of the airports listed above. During the first week the Soviet estimate assumes a total of 335 flights per day handled by six airfields; 300 daily flights the second week; and 200 flights thereafter. The PRC estimate assumes a total 85 flights per day during the first week; 75 daily flights the second week; and 50 flights thereafter. North Vietnamese facilities could readily handle the PRC airlift, but they may be stretched to the maximum in handling the Soviet program which would require at its peak an average of more than 55 landings per day at each of the six airports, and at its lowest about 35 landings per day.

4. Assuming no authority to interdict USSR and/or PRC aircraft in-flight, what is our estimate of our capability to destroy items at the off-loading point?

The North Vietnamese would have difficulty in moving even the minimum daily tonnages contained in the Soviet estimate. Efficient movement would require expeditious handling and transporting of the cargo out of the environs of the airports. Some cargo almost certainly would be backed up and susceptible to destruction by air attack. If we assume that the airfields would not be attacked while the Soviet aircraft are on the ground, this means that the trucks might seek protection by being parked close to the Soviet or Chinese aircraft until nightfall at which time supplies would be moved out of the area. To the extent that night air attacks could be conducted on a sustained basis, the supply flows from the airfield would offer lucrative targets. However, at the present time most air attacks are being flown during the day and it is questionable how effective night operations could be made under the high threat situation at most airfields -- the airfields in question are well defended by AAA, SAMs, and MIGs and the interdiction effort would be difficult and costly. Attacks against runways, however, would disrupt operations if carried out in a sustained and concentrated manner. Because of the much smaller tonnages involved, we anticipate that the North Vietnamese could handle the PRC airlift with much less difficulty, and could quickly disperse the arriving cargoes.

Question B. New Weapons

The introduction of a large, Soviet-manned SAM force into North Vietnam would seriously degrade US bombing capabilities in the area. Assuming such a force were to include improved SA-2 equipment and SA-3, SA-4, and SA-6 equipment, the effectiveness of US attacks against targets in North Vietnam would be reduced for several reasons:

a. The increased number of SAM launchers and the higher proficiency of Soviet crews would result in increased US aircraft losses.

b. The deployment of the SA-3 and SA-6 to North Vietnam would increase the low-altitude coverage of the air-defense system, thereby reducing US attack options.

c. The mobility of the SA-4 and SA-6 would make counterstrikes against these systems more difficult.

d. The greater number and variety of SAM systems would complicate the US electronic countermeasures problem.

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Question C. Use of PRC Airfields

Several factors would limit the military advantage that might result from changing the rules of engagement to permit hot pursuit of North Vietnamese aircraft using China as a sanctuary. Combat in the Sino-North Vietnamese border regions would be conducted at minimum range for North Vietnamese aircraft but at long range for US land-based aircraft. Fuel constraints would impose at least some limits on tactics and maneuver for US aircraft, whereas the North Vietnamese would gain from the proximity of GCI radars immune from attack.

By far the greatest military disadvantage that must be considered in any decision to remove the buffer zone, however, could arise from the virtual certainty that accidental overflights of Chinese territory would result, coupled with China's demonstrated willingness and capability to defend its airspace. The Chinese can conduct intensive air patrols of the entire North Vietnamese border, and even a brief intrusion into Chinese territory could draw an immediate response. A total of at least 150 Chinese jet fighters are currently based at Ning Ming, T'ien-yang, Nanning, Meng-tzu, and Ssu-mao airfields, and more could be deployed quickly to Ping-yuan-chieh (and to the other airfields as well) if the Chinese chose. All six airfields are within 100 nautical miles of the North Vietnamese border and capable of supporting defensive fighter patrols. Only MIG-19s and MIG-17s are now based in the border region, but small numbers of MIG-21s were active there during the previous US bombing campaign, and they could return on short notice.

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Table 1
Cargo Lift Capacity of the Civil (Aeroflot)
and Military Transport Aircraft

Type and Model	Cruise Speed (Knots)	Range (Nautical Miles)		Cargo Capacity		Civil (Aeroflot) Inventory		Military Inventory		Total	
		Normal Payload	Maximum Payload	Normal	Maximum	Number of Units	Cargo* Capacity	Number of Units	Cargo* Capacity	Number of Units	Cargo* Capacity
TR-104A (Came1)	445	2,200	1,550	16	15	60	900	9	135	69	1,035
TR-104B (Came1)	445	2,150	1,600	18	15	85	1,275	--	--	85	1,275
TR-12A (Cocotron)	430	1,580	1,250	13	8	75	600	25	200	100	800
TR-13A (Cocotron)	420	1,850	1,420	15	10	80	800	5	50	85	850
TR-15A (Careless)	460	2,850	2,050	18	25	8	200	--	--	8	200
TR-62 (Classic)	435	4,950	3,700	13	30	44	1,320	--	--	44	1,320
TR-40 (Cocotron)	300	820	310	2	4	200	800	1	4	201	804
Sub-total						525	5,895	40	389	592	6,284
Turboprop											
TR-8 (Came)	285	2,650	800	8	14	--	--	100	1,400	100	1,400
TR-16 (Came)	335	1,450	540	10	16	85	1,360	27	432	112	1,792
TR-12 (Came)	335	1,670-3,800	150-730	5-11	22	153	3,366	810	17,820	963	21,183
TR-32 (Cocok)	360	5,100	2,980	50	88	2	176	20	1,760	22	1,936
TR-34/28	255	1,150	430	4	4	635	4,445	70	490	705	4,935
TR-18 (Cocok)	320	3,120-4,250	2,020-2,400	12	17	362	6,154	9	153	371	6,527
TR-114 (Ciclat)	415	5,500	4,000	17	33	29	957	--	--	29	957
Sub-total						1,266	16,458	1,036	22,055	2,302	38,513
TOTAL						1,819	22,353	1,076	22,444	2,894	44,797

* Cargo Capacity in tons.

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Table 2
PRC Transport Aircraft Inventory and Cargo Lift Capability a/

Type and Model	Range (Nautical Miles)		No. of Aircraft	Total	Unit Cargo Capacity		Total Cargo Capacity		
	Normal Payload	Maximum Payload			Normal	Maximum	Normal	Maximum	
<u>Turboprop</u>									
AN-12	1670-3800	150-730	11	2	13	5-11	22	65-143	286
AN-24	1,150	430	6	6	12	4	4	48	48
IL-18 (D)	3120-4250	2020-2400	9	11	20	12	17	240	340
<u>Piston</u>									
C-46(A)	1,025	500 or less	28	-	28	28	5	78	140
C-47	1,040	800	3	-	3	2	4.8	6	14
IL-12	1,600	500	32	4	36	2.4	4.0	86	144
IL-14(M)	1,600	500	48	47	95	3.2	5.2	304	494
Totals			<u>137</u>	<u>70</u>	<u>207</u>			<u>827-905</u>	<u>1,466</u>

a/ Excludes 480 AN-2 aircraft, 63 other aircraft types deemed unsuitable for a large cargo airlift and 3 Tridents and 7 Viscounts. Most of the piston type transports are capable of side-loading only and would therefore be restricted to handling relatively small size cargoes.

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c. How many Latin American Governments follow this procedure? How many don't follow it?

There are 23 countries in OAS. Only a few trade with Cuba. There is small but growing exchange with Chile (sugar for beans and wine); with Peru (sugar for fish meal); and with Mexico. Mexican trade consists primarily of Cuban imports of Mexican corn, almost all of which are on Soviet account. Latin American islands trading with Cuba are Guadelupe, Martinique, and Jamaica. This trade, however, is insignificant. Available statistics on the trade of these countries with Cuba in 1971 is given in the tabulation below. (in US\$ 1,000)

	<u>Cuban Exports</u>	<u>Cuban Imports</u>
Chile	15,000	15,000
Peru	Negl.	4,000
Mexico	6	70
Jamaica	Insig.	Insig.
Guadelupe	Insig.	Insig.
Martinique	Insig.	Insig.

Question 8. As far as Latin American policy goes, what difference does it make if they did ship government or government-financed cargo to Cuba?

In economic terms probably none. Of the trade mentioned above, we are not aware that any Latin American exports have involved government or government financed cargo. We doubt that there would be any significant amount of government or government financed trade with Cuba, with the possible exception of Chile.

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