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JIC Assessment

The Soviet Threat to North America, Mid-1957

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Note: This is the Canadian position paper for the joint Canada/US assessment ACAI 24.

Mr. Glavin

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"It is always wise to look ahead, but  
difficult to look farther than you can  
see..."

Winston S. Churchill  
July, 1952

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CANADIAN JIC 56(52)

1 August 1952

FUTURE DEFENCE ANALYSIS

THE SOVIET THREAT TO NORTH AMERICA

MID - 1957

THE PROBLEM

1. To prepare an agreed U.S. - Canadian estimate of the Soviet threat to North America in a major war commencing in mid-1957.

ASSUMPTION - THE OUTBREAK OF WAR

2. Allied capabilities for the early detection of Soviet military preparations and for definitive appreciation as to whether such preparations are for manoeuvres or for aggressive action are inadequate, and will probably remain so at least until 1957. It is therefore necessary to assume that there would be little or no warning before an outbreak of hostilities.

POLITICAL FACTORS

POLITICAL ALIGNMENT

Soviet Bloc

3. The following countries will be aligned with the Soviet Union:

|                 |          |                 |
|-----------------|----------|-----------------|
| Albania         | Roumania | Eastern Germany |
| Bulgaria        |          | Hungary         |
| Communist China |          | Outer Mongolia  |
| Czechoslovakia  |          | Poland          |

4. In addition, the Soviet Union will have control of the territory and resources of Eastern Austria, use of the base in Porkalla (Finland) and control, if not legal possession, of the Kurile Islands and South Sakhalin.

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Western Powers

5. The following countries, together with their dependent territories, will be allied or aligned with the United States and Canada:

|           |                   |                |
|-----------|-------------------|----------------|
| Australia | Italy             | New Zealand    |
| Belgium   | Japan             | Philippines    |
| Denmark   | Luxembourg        | Portugal       |
| France    | Nationalist China |                |
| Greece    | Norway            | Turkey         |
| Iceland   | Netherlands       | United Kingdom |

6. If by mid-1957 there has been no agreement on Germany between the Western Powers and the Soviet Union, the division of Germany will still exist. Although Western Germany may not be an occupied country at that time, it will be definitely aligned with the West.

7. The Latin American countries are committed by the Rio Treaty to support the United States in the event of any hostilities which may endanger the peace and security of the American Continent. Countries such as Colombia and Brazil may, in varying degrees, afford active military assistance in the event of general war.

8. The Western Powers will have access, at least initially, to the territory and resources of Western Austria and Trieste. They will have access to bases in Ceylon, Liberia, Libya and Saudi Arabia. They will also have defense rights in Iraq, Jordan and Egypt, but in view of the prevailing nationalism in these countries there might be some difficulty in fully exercising these rights. Should the present negotiations between the United States and Spain be successfully concluded, the Western Powers would have access to naval and air facilities in Spain.

Korea

9. It seems reasonable to assume that by mid-1957 some settlement will have emerged in Korea. It may take the form of an uneasy balance of

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power in the peninsula, i.e. a return to the status quo ante in spite of the constantly reiterated United Nations objective of a unified Korea. Any settlement would probably mean the withdrawal of the major portion of United Nations troops from South Korea. The North Korean forces will probably be aligned with the Soviet bloc.

#### Indochina

10. It appears possible that if present conditions continue and considerable additional assistance is not made available to the Franco-Vietnamese forces, the French will be forced to withdraw from the area before 1957. Such a development would mean a Vietminh success in Indochina and would strengthen the communist position throughout S.E. Asia.

#### Other States

11. In the event of war, the political alignment of the states listed below would be less certain than that of the countries mentioned in paragraphs 3 and 5.

- (a) Switzerland and Sweden will remain neutral unless attacked.
- (b) Ireland would remain nonbelligerent. It might cooperate with the Western Powers after the outbreak of war but the possibility of this is slight.
- (c) South Africa. If racial conflicts continue in the event of war the non-whites may refuse to cooperate or may try to obtain civil and political rights. Consequently in order to maintain law and order and white supremacy South Africa may have to keep its troops within its borders.
- (d) Finland is bound by treaty to assist the Soviet Union if the latter is menaced through Finnish territory. The Finns will not willingly give any military assistance to the Soviet Union; they will try to avoid giving permission to Soviet troops to move into Finland.

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- (e) Yugoslavia. The present regime will be anti-Soviet and will continue to look to the West for assistance against potential Soviet attack. In the event of an East-West conflict in Europe, Yugoslavia might attempt to remain neutral but circumstances would no doubt force it to support the West. The present regime appears to be able to control any internal opposition and can be overthrown only by foreign invasion.
- (f) Spain. Although strongly anti-Soviet, Spain would probably be unwilling to commit military forces outside its territory. It may provide the West with naval and air facilities but would otherwise attempt to remain nonbelligerent.
- (g) Israel would endeavor to remain neutral. Although presently disposed to favor the Western Powers, Israel will follow the course that it deems most expedient in the light of the pressures and inducements existing at the time.
- (h) Arab States. Apart from treaty obligations, all the Arab States with the possible exceptions of Syria and Lebanon, will attempt to remain neutral unless attacked. The present regimes in Syria and Lebanon would be disposed to favor the Western Powers but might be reluctant to assist in any active cooperation not fully supported by other Arab governments.
- (i) Iran, under the present regime, will attempt to remain neutral.
- (j) India and Pakistan. India will probably attempt to remain neutral unless attacked. Pakistan might be more sympathetic to the Western Powers. However, if her recent sponsorship of aims and aspirations of the Moslem countries is an indication of where she would stand in any East-West

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conflict. Like India, Pakistan could probably be relied upon to defend herself if attacked but would probably be unwilling to furnish military assistance.

- (k) Indonesia, although sympathetic to the Western Powers, will attempt to remain nonbelligerent.
- (l) Thailand is partially committed to the West by its military contribution to the United Nations action in Korea. Its attitude in the event of war will depend largely on the outcome of the war in Indochina and on the degree of danger involved in siding with the West.
- (m) Burma will attempt, at least initially, to remain neutral. Its attitude will depend largely on the prospects of direct Chinese Communist invasion, as well as on the outcome of the war in Indochina. If the Viet Minh forces secure power in the whole of Indochina, then Burma and Thailand might come under Communist control and the United Kingdom's position in Malaya would be directly threatened.

#### ENEMY GOVERNMENTS AND PEOPLES

##### Soviet Union

12. The Soviet regime is firmly established and owes its stability amongst other factors to:

- (a) centuries of undemocratic tradition;
- (b) efficient Communist indoctrination and discipline;
- (c) rigid police supervision;
- (d) isolation from foreign contacts;
- (e) a certain amount of acceptance from the population;
- (f) the prestige it has won in the minds of Soviet citizens by its emergence as one of the world's great powers.

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- (g) the strong patriotism which the Soviet authorities have been able to retain in support of their regime.

13. The regime faces various internal problems of which the most persistent are:

- (a) the inherent strains of any dictatorship which rules by repression;
- (b) friction between the Great Russians and the major national minorities.

However, these and other potential sources of disaffection are kept in check through the Communist monopoly of the instruments of political power. The government is now and will remain in full control of the country, although the death of Stalin will raise the question of the transfer of power.

14. In time of war, the potential opposition in the Soviet Union could reduce the war effort seriously only if the mechanisms of control were thoroughly disrupted or if effective allied support for disaffected groups were immediately at hand.

#### European Satellites

15. The governments of the European satellite countries came to power under Soviet auspices, and there is now thorough Soviet infiltration and supervision of the party, police and armed forces of each country.

16. Although there is evidence of the hostility of the peoples of the satellite countries to their Communist regimes, there are no appreciable signs of effective resistance. Continued improvement in Communist methods of control will hinder the development of effective opposition.

17. In time of war the Soviet Union will be able to maintain such control over the satellite governments that the latent hostility of their peoples to the governments will not be able to take the form of

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effective resistance to the Soviet war effort unless the Western Powers are able to provide assistance and direction from a nearby area.

18. The stability of the Communist regime in the period under review is not likely to be seriously affected by opposition to its policies, by the current anti-Communist guerrilla activities, or by the continuation of the present measures taken against Communist China by the non-Communist nations.

19. The Soviet Union is less able to exert direct pressure on Communist China than on the European satellites. Thus far, however, there have been no indications of divergencies between the policies of Communist China and the Soviet Union. Indeed, the Communist Chinese intervention in Korea has served to embroil the Peiping regime with the Western Powers and consequently to align it even more closely with the Soviet Union.

20. Settlement of the Korean war may open the way for more normal relations between China and the Western powers and provide opportunities for the West to exploit any cleavages which may exist between China and the Soviet Union.

21. In the event of war, Communist China and the Soviet Union will cooperate against the Western Powers in pursuing their objectives in Asia, and, if Japan or states allied with Japan were involved, the two countries would be bound to joint action against the West by the Sino-Soviet alliance. It is considered however that the alliance is likely to be used as a basis for joint action against the West only if the decision to act has already been taken on other grounds.

#### INTERNATIONAL COMMUNISM

22. Soviet policy is simultaneously motivated by Marxist-Leninist-Stalinist doctrine and by considerations affecting the position of the Soviet Union as a great power. While their understanding of the developing world

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situation is strongly influenced by Communist doctrine, the Soviet leaders are not limited by doctrinal considerations in their choice of courses of action. As a result of the identification of the Soviet Union with communism, the Soviet leaders are able to exploit the attractions of communism to enlist foreign support for Soviet national interests.

23. The Soviet Union commands in this way the allegiance of Communist Parties, legal or underground, in most countries of the world. These parties advance Soviet interests through parliamentary activities and propaganda. Communist members can also be employed in subversion, sabotage, espionage and even armed insurrection.

24. A variety of national and international front organizations operate as further instruments of Soviet policy. Communists have developed or infiltrated trade unions and women's and youth organizations in most parts of the world. The chief recent effort in this field is the World Peace Movement. The Soviet Union through this movement seeks to undermine popular support for Western defense plans. In time of crisis the movement might be a means of direct mass action against preparations for war.

#### METHODS OF POLITICAL ATTACK

##### General

25. No evidence is available regarding the details of future sabotage and subversive activities in the United States and Canada, but by 1957 no marked changes in the objectives and fundamental policy of the Soviet Union in these fields are anticipated.

26. The Soviet Union has shown great versatility in perfecting its world-wide subversive apparatus and in devising new tactics to achieve its objectives. As a result, Soviet capabilities in this field have been enhanced. In the field of sabotage Soviet capability may be increased by the development of such weapons as chemical and biological agents.

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27. The Soviet Union is now engaged in psychological warfare implemented through political and economic actions. The Soviet Union is engaged in espionage and subversion within the United States and Canada. It is also encouraging sabotage which currently takes the form of strikes and slowdowns in United States and Canadian industry.

Subversion

28. Communists in the United States and Canada have as one of their major and constant tasks the subversion of United States and Canadian citizens--both as individuals and groups--and concurrently the promotion of Soviet propaganda themes. They make full use of local issues, which are distorted to suit their own purposes, and they camouflage their work by a facade of front organizations, which frequently are not recognized as such by the public.

Sabotage

No 29. There is no evidence to show the existence of a Soviet-directed physical sabotage campaign under way in the United States and Canada at the present time. Should it later suit Soviet purposes to open such a campaign, this weapon may be expected to be used to the fullest extent. It is significant that the Communist Parties, both U.S. and Canadian, continue their efforts to penetrate industry, particularly the basic industries. Industries served by Communist-dominated unions would be particularly vulnerable to the threat of Communist sabotage.

30. The probable effectiveness of Soviet-directed physical sabotage will depend largely on the efficiency of security measures in the fields threatened. The most critical period would be from the opening of the sabotage campaign until the time when security arrangements are in full force. Little warning can be expected, and sabotage would probably be timed with military efforts. It is expected that the sabotage campaign will achieve its greatest success during the initial phase of hostilities.

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31. The Soviet Union will possess an increasing capability for employing chemical and biological agents for sabotage operations between now and 1957. The fear of retaliation, however, may prevent or delay this type of attack.

PSYCHOLOGICAL WARFARE

32. Canada. At the present time the Communist Party through the medium of its organization of legal expression, the Labor Progressive Party (LPP) and its open Party press, the Canadian Tribune, the Pacific Tribune, and the National Affairs Monthly together with the many foreign language newspapers is carrying on an incessant propaganda campaign designed to create disaffection, factional disagreement and general dissatisfaction in the minds of the Canadian people with duly constituted Government and its leadership.

33. United States. At the present the Communist Party, USA, through its open Party press, the New York Daily Worker and the San Francisco Daily People's World, and through its monthly publication Political Affairs, as well as through its numerous front organizations, is conducting an incessant propaganda campaign designed to create disturbances, and general dissatisfaction in the minds of the United States populace with the duly constituted Government and its leadership.

34. In the event of general war, the Communist Parties of both countries, as well as some of the more radical and extremist organizations of the foreign language groups, would probably be declared illegal and their respective presses banned. In such an event the underground movement would undoubtedly revert to the practice of distribution of clandestinely printed newspapers and mimeographed pamphlets. Communist elements may be expected to endeavor to foment discord, dissatisfaction and confusion by malicious rumor and whispering campaigns and their tactics may be expected to include terrorist activities. Similar methods would be

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employed for the purpose of slowing down industrial production as well  
as generally lessening the people's will to win.

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GEOGRAPHIC, LOGISTIC AND ECONOMIC FACTORS

Topography.

35. The frontier of the Soviet Union has a total length of approximately 38,000 miles, two-thirds of which is coastline. Only in a few areas, however, is this frontier easily traversable by land or accessible by sea. To the south in Outer Mongolia, Sinkiang, Afghanistan and Iran are high mountains and deserts. To the north and northeast are the Arctic Ocean and other cold seas which, with few exceptions, are frozen for the greater part of the year. Only the North European Plain, the Black Sea Coast, the Baltic Coast and the Murman Coast and the maritime Far East provide avenues of approach to the areas in which are concentrated approximately three-fourths of the economic resources and population of the Soviet Union. In contrast to the remoteness, in terms of land attack, of Soviet strategic areas from Allied territory, the industries and population centers of Western Europe and the transportation links and oil of the Middle East are all relatively close to the limits of Soviet-controlled territory.

36. The large area of the country (about 8.5 million square miles) imposes a heavy burden on the transportation system (see paragraphs 38-41 below). It also makes an integrated economy and a flexible defence plan difficult to achieve, although it does permit the Soviet Union to trade space for time when invaded. The extremely rigorous winter which is experienced throughout most of the country poses further problems, not only in transportation but in almost every other economic and military activity.

37. The Soviet Union has a broader longitudinal perimeter around the Arctic basin than has North America and its location is trans-polar in relation to this continent. It must, therefore, attach considerable importance to northern bases, particularly in the Murmansk area, Northeast Siberia and possibly in the islands north of the Barents Sea. Although intelligence on air facilities in this area is scanty and there are at present believed to be a very limited number of bases suitable for medium

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bomber operations, the Soviet Union has the capability of constructing by 1957 bases for both medium and heavy bomber operations. By 1957 the logistic problem in North and Northeast Siberia, although still considerable, should be much improved by the construction of new roads and possibly railways. The Soviet Union has had much experience in operating aircraft in the North and will doubtless be able to overcome most of the more serious problems. In addition to normal bases it is possible that frozen strips may be used during the winter months as these have been known to accommodate aircraft up to the medium bomber weight class.

38. Communications and Transportation. It is estimated that in 1957 the railways will continue to carry the bulk of all inland freight traffic in the Soviet Union. Nevertheless the capacity and efficiency of the Soviet transportation system as a whole will have greatly increased. In particular communications between the Urals and the Far East will be improved and supply lines to Northeast Siberia and other northern areas will be further developed. Increases in rolling stock, shorter turn-round times, electrification and double tracking will further increase the operating efficiency of the railways. Some development in highways can also be expected, particularly in the West. In short, the transportation system will be more extensive, more efficient and less vulnerable than at present and it is not anticipated that it will impose a serious limitation on the Soviet Union's ability to move its forces and to maintain a war economy.

39. The present total Soviet merchant fleet, together with that proportion of the fleets of the European satellites of which the Soviet Union could probably make use, is thought to be about 2.25 million gross tons. The merchant fleet of Communist China has about 190,000 tons. If the present policy is continued no substantial change in the relative size of the combined Soviet and Satellite merchant fleets is to be expected. East German shipping may show an increase if the building programme of the Five Year Plan is realised but this will be balanced to some extent by the increasing obsolescence of some of the Soviet fleet.

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40. The consideration which overshadows all others in its effects on the military and economic aspects of transportation is the concentration of Soviet and Satellite territories into one continuous land mass of enormous size. The resultant strength of their systems is that they are contiguous and possess interior connecting lines. However, the enormous distance between the east and west of Soviet-controlled territory and the lack of a satisfactory Soviet-controlled sea route between them pose serious problems. Except in North and Northeast Siberia, which are dependent on seasonal shipping, reliance must be placed almost entirely on rail transport which involves the use of enormous quantities of rolling-stock, fuel and skilled labour, supplies of which are critically balanced or short or are likely to become so in war. In peace or war, the operation and expansion of the transportation system will be a drain on Soviet economic resources. It is, however, estimated that Soviet lines of communication will be more efficient and less flexible than those to the United Kingdom base from the United States, which will be subject to formidable submarine and mine attacks.

41. The poor distribution of land transport facilities in southeastern Europe is a strategic weakness which is only partially offset by Soviet control of the Black Sea and the Danube. In the Balkans north-south lines are too sparse by themselves to support large movements directed at the Bosphorus or into Greece. The road network, moreover, despite certain improvements, is sparse and poorly aligned for the support of possible Soviet military operations. Nevertheless, the Soviet Union could initially maintain about ten divisions in European Turkey. Another weakness of the Soviet orbit land transportation system is the problem of gauge difference, which has long been a source of difficulty. Change of gauge points are, however, fairly numerous and do not provide satisfactory bombing targets.

41A. The Soviet telecommunications system is efficient and extensive. It is not expected to be a limiting factor in the ability of the Soviet Union to conduct operations (even from North and Northeast Siberia) in 1957.

#### ECONOMIC POTENTIAL

42. General. The basic economic strength of the Soviet Union lies in the fact that it has resources of nearly all important raw materials within its boundaries, a large and developed industrial system, considerable

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resources of manpower and adequate sources of food. During the last two decades the Soviet Union has achieved a higher rate of industrial growth than any other major country of the world and now has the second largest industrial economy in the world. During the next five years it may be expected that the economy of the Soviet Union will continue to expand substantially. With a rapidly growing population, an abundance of natural resources and a continuing high capital investment programme, the level of national output by 1957 may possibly be 25 per cent higher than in 1952. Industrial output alone is expected to show a growth of 40-50 per cent over 1952. This will only be accomplished, however, if the increase in living standards is limited to 10-15 per cent, thereby permitting the allocation of some 45 per cent of total national resource to investment and defence. The economic strength of the Soviet Union relative to other major powers will probably increase by mid-1957.

43. The Soviet economy is highly centralized and many of the difficulties encountered in the early years of economic planning have been overcome. The practice of accumulating reserves of materials in the hands of the government has been followed for a number of years, and these stockpiles can play an important part in bridging periods of scarcity. Since in addition the development of the Soviet economy has stressed those industries which can contribute most directly to war potential, a change to a war footing can be affected much more smoothly and quickly than in Western economies.

44. The European Satellites, except Czechoslovakia and East Germany, are in the early stages of industrialization and during the next five years the heavy industry of the group as a whole will probably expand more rapidly than that of the Soviet Union. The industrial development of China, which has been generally hampered in recent years, may also be fairly rapid. Given the very low output of Chinese industry, however, even rapid expansion will not materially alter the Chinese economy in the next five years.

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45. Management and Labour. It is estimated that the population of the Soviet Union will total approximately 220 million in mid-1957 of which around 55 million will be in the 15-49 age group. The civilian non-agricultural labour force (which includes state farm and machine tractor station personnel) will be about 49 million and the industrial labour force about 18 million by mid-1957. The total population of the European Satellites will be nearly 100 million, with 20-25 million in the age groups 15-49. The population of Communist China will be 460-470 million.

46. The number of men in the military age groups which the Soviet Union could mobilize under war conditions by 1957 will depend upon the manpower requirements for armament production and the essential civilian economy. The maximum available military manpower is estimated at 30 million but the number which could possibly be mobilized under war conditions would be approximately 15 million taking into consideration the additional manpower required to produce modern military equipment. In the case of China the number which could be mobilized and usefully employed bears only a remote relation to the number in the military age groups.

47. One of the limiting factors in rapid industrialization is the time required to build up a force of skilled workers and experienced managers. In spite of intensive technical training programmes the demand for such personnel in the Soviet Union is so great, relative to the supply, that this shortage may persist through 1957. Industry engaged in military production has a high priority and will be less affected than the rest of the economy.

48. Raw Materials. The Soviet bloc is self-sufficient in nearly all important raw materials and may well improve its resource position by mid-1957 as large areas are still inadequately explored and developed. The Soviet Union has large reserves of basic energy resources, coal, oil and waterpower. Proved petroleum reserves are not very large but the potential reserves which exploration and development will uncover are thought to be very great. Reserves of iron ore in the Soviet Union are adequate but unless

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new discoveries are made, the reserves of a number of non-ferrous metal ores, particularly lead, zinc and good quality bauxite may prove inadequate over the long run. The European Satellites are deficient in a number of materials and not all of their needs have been met by the Soviet Union. Chinese resources are largely undeveloped but the growing economic ties between China and the rest of the Soviet bloc have led to an exchange of Chinese tungsten, molybdenum, tin, antimony and vegetable oils for Soviet or Satellite supplies of industrial equipment and petroleum products.

49. It is not likely that the need of the Soviet bloc to import industrial raw materials such as rubber, jute, industrial diamonds and wool will have disappeared by mid-1957 while certain basic materials, such as copper, lead, aluminum, nickel and cobalt in which the European Satellites are deficient may still have to be obtained from outside the Soviet bloc.

50. Agricultural Production. Well over half the labour force of the Soviet bloc, excluding China, is employed in agriculture and developments in agriculture materially affect the rate of industrial growth and consequently the economic war potential of the area. Agricultural production in the Soviet Union will show some increase by 1957 in the output of wheat and livestock, and if the new irrigation projects are carried out, a large increase in the cotton crop. Collectivization of East European agriculture is expected to have an adverse effect on production during the next five years and it is doubtful if there will be a surplus of agricultural produce in East Europe by 1957. The Soviet orbit, with the possible exception of China, will continue to be self-sufficient in food stuffs in 1957.

51. Industrial Capacity. Industrial capacity has expanded rapidly since the end of the Second World War. This has reflected in large part the rehabilitation of damaged plant and equipment and was aided considerably by reparations from former enemy countries. Rates of expansion from now to 1957 are expected to be rather slow, as they will depend upon improved use of existing capacity or upon the construction of new capacity which would

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necessitate a material increase in the level of investment, which can only come from reductions in civilian consumption or the defence effort or both.

52. Soviet industrial output by mid-1957 will probably be 40-50 per cent above the present level. The rate of growth will not be uniform as between individual industries, and if long term trends continue the output of electric power and engineering products will increase more rapidly than total industrial output. The rate of industrial production will probably grow more rapidly in the European Satellites as a whole, but by mid-1957 their combined industrial output will not be likely to exceed 30 per cent of that of the Soviet Union.

53. Possible Defence Effort in 1957. While industrial output may well increase by 40-50 per cent by mid-1957, national product as a whole will probably increase by only 20-25 per cent. At present the Soviet Union is spending the equivalent of \$20-25 billion on defence (about 20 per cent of national income), about the same ratio as in 1940. Under full mobilization conditions, this ratio could rise to 40 or 50 per cent and the defence effort could expand to 2 to 2.5 times its present level. Even with a considerable cut in consumption this would involve a virtual cessation of net investment and sharply curtail industrial growth. If on the other hand the present level of defence effort relative to the overall capabilities of the nation is regarded as the maximum consistent with a high rate of economic growth and some improvement in living standards, the total defence effort of the Soviet Union by mid-1957 will only exceed the present-day level by about 25 per cent. The defence effort of the European Satellites is small relative to that of the Soviet Union (10-15 per cent), but may grow more rapidly during this period than that of the Soviet Union.

#### PRODUCTION OF MILITARY ITEMS

##### Aircraft

54. General. At the present time the Soviet aircraft industry has over thirty factories producing aircraft and twelve producing engines. Total annual output is currently estimated at nearly 10,000, one half of which is jet

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fighters. Under the existing pattern of production the maximum annual output is estimated to be between 35,000 and 40,000 aircraft of all types. The estimates for mid-1957 are based on the assumption that more or less the same pattern and tempo of production as exists in 1952 will continue throughout the period. These estimates for mid-1957 do not represent the maximum Soviet production capability.

55. Long Range Bombers. The main factors affecting the production of long range bombers will be the progress of atomic bomb production and of the guided missile programme. The estimates given below are highly tentative: they reflect varying degrees of success in these programmes, but allow enough aircraft to maintain the Long Range Force at its present size. The figures are for cumulative production from the date of commencement of production until mid-1957.

56. The following estimates have been calculated on the assumption that only one factory is concerned with long range bomber outputs:

- (a) 1,700 - 1,800 Tu-4s or
- (b) 900 Tu-4s and 700 Type 31s or
- (c) 900-1,000 Tu-4s and 500 medium jet bombers, or
- (d) 1,100-1,200 Tu-4s, 100 Type 31s and 50-100 heavy jet bombers.

57. The following estimates are calculated on the assumption that two factories are concerned with long range bomber outputs:

- (a) 1,200 Tu-4s and 700 Type 31s and 50-100 heavy jet bombers, or
- (b) 1,200 Tu-4s, 100 Type 31s and 200 heavy jet bombers, or
- (c) 900 Tu-4s and 1,000-1,200 Type 31s, or
- (d) 900 Tu-4s and 1,000 medium jet bombers, or
- (e) 1,200 Tu-4s, 200 Type 31s, 50-100 medium jet bombers and 100 heavy jet bombers, or
- (f) 1,200 Tu-4s, 500 medium jet bombers and 50-100 heavy jet bombers.

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58. The most likely possibilities are thought to be:

- |                    |    |   |
|--------------------|----|---|
| From one factory   | -- | 1,100-1,200 Tu-4s, 100 Type 31s and 50-100 heavy jet bombers.                   |
| From two factories | -  | 1,200 Tu-4s, 200 Type 31s, 50-100 medium jet bombers and 100 heavy jet bombers. |

59. Transports. The information available to the present (mid-1952) time indicates that only twin-engine transports have been produced in quantity in the Soviet Union. Though prototypes of two four-engine transports were seen as early as 1947, there has been no sign of series production of either type. The transport estimates for mid-1957 are as follows:

- (a) A total force of roughly 4,000 twin-engine transports will be available, one-quarter to one-third of which will be of a newer type with a better load carrying capacity and range.
- (b) A force of over 3,000 twin engine transports in service, plus a production of 400 multi-engine transports, of which possibly one-half will be in operational use.

60. Light Jet Bombers. The production of light jet bombers similar to those currently in production is expected to continue until mid-1957. By this date, at a rate of 1,000 per year, sufficient jet light bombers could have been produced to equip all the light bomber units with jets. At this rate there would not be sufficient production to build up any reserve of light jet bombers.

61. Fighters. By mid-1957 it is probable that the Soviet Union will have a new type of interceptor fighter in production. Providing that sufficient of the fighter factories are turned over to production of this new type, it is possible that the Soviet Union could have up to 2,000 of this type in units. By mid-1957 all fighter units would be jet equipped, with the bulk of the force comprising Mig-15 types. The Russians could also have a reserve of well over 5,000 jet fighters, mainly Mig-15 type. It is also considered possible that the Soviet Union could have produced up to 1,000 all-weather fighters.

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#### Guided Missiles

62. It is considered possible that by mid-1957 the Soviet Union could have both air-to-air and ground-to-air guided missiles at least in production.

63. At the present time there is little evidence to suggest that the development of a long range ground-ground guided missile has reached a stage where even experimental production could begin within the years 1952-53. It is considered possible that, should the Soviet Union intend to mass produce long-range guided missiles, they could be in production by mid-1957. The characteristics and types produced cannot be assessed. It is thought that, should the Soviet Union devote a considerable effort to the development and production of long-range guided missiles, then the long-range bomber programme would be considerably curtailed.

#### Land Armaments

64. No firm estimate of current AFV production is possible. Production may be of the order of 6,000 tanks and SP guns. It is thought that by 1957 capacity for producing tanks and SP guns will be in excess of Second World War capacity and that it may be in the region of 50,000 a year. Satellite capacity may in 1957 be of the order of 7,000-8,000.

65. No limiting factor in factory capacity for producing artillery weapons is foreseen.

#### Motor Trucks

66. Soviet capacity for production of motor trucks may be of the order of 800,000 - 900,000 units by mid-1957.

#### Naval Shipbuilding

67. In the yards of the Ministry of Shipbuilding there is at present ample capacity for the size of naval building programme which is currently being undertaken. By mid-1957 annual capacity may be in excess of 200-250 submarines, 5 cruisers and 25-30 destroyers. In the case of submarines, the figure might be substantially higher, if sectional methods of construction are developed.

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THE STRATEGIC SIGNIFICANCE OF THE SOVIET ECONOMY

68. In mid-1957 the economic potential of the Western powers in terms of production, resources and effective military manpower will be greater than that of the Soviet Union and the East European Satellites. Even if the goals for Soviet industry set by Stalin for achievement in the early nineteen-sixties are reached on schedule, Soviet output will only reach about one half the present level of American production. Even in terms of effective military manpower the West is not out-classed. The combined military manpower of the United States and the British Commonwealth exceeds that of the Soviet Union while the same is true to a more striking degree of continental Western Europe as compared with Eastern Europe. The reserve of Chinese military manpower is enormous but in view of the industrial weakness of the Chinese economy the contribution which can be made by this reserve must be heavily discounted.

69. In simple statistical terms therefore the balance in terms of resources, production and effective manpower is very favourable to the Western powers. Comparisons of this kind, however, may exaggerate the Allied advantage. The United States and overseas Commonwealth countries must project their effective power many thousands of miles from their economic base, while the areas of greatest significance to the Soviet countries are near their borders. Moreover, the development of the Soviet economy has been oriented towards war preparedness and from the point of view of military effectiveness, the Soviet economy is relatively stronger than a comparison of output figures might indicate. Also, the current level of military production and the equipment in the hands of the Soviet armed forces still reflect the advantage of several years' lead over the Western Powers in military build-up, although this consideration will be relatively less significant by 1957 than it is at the present time.

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SCIENTIFIC FACTORS

70. During the post-war period the Soviet Union made great efforts to train more scientific manpower. The number of scientists emerging from the Universities has increased annually, and is likely to continue to grow. This expansion will, by 1957, supply Russia with a considerable number of scientists and technicians, some of whom will, by that date, have acquired a certain amount of practical experience. The quality of the majority of these men is likely to be mediocre, but the sheer weight of numbers should produce some first-class scientists.

71. Soviet research and industrial laboratories are expanding steadily, and should be able to supply Soviet requirements in applied science. It is not thought likely that the Soviet Union will do more basic research than is absolutely necessary, but will rather apply the results of Western basic work to its own needs.

72. It is considered that the Soviet Union is now, and will continue to be, able to conduct any research projects necessary for its military programme, although it may retain a small number of German and satellite scientists in its laboratories. The number of foreigners employed by the Soviet Union is likely to decrease, and will probably no longer be a significant factor by 1957.

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MILITARY FACTORS

GROUND FORCES

Strength

73. Soviet Union. It would appear that the size of the Soviet Army is influenced by three factors: the defensive minimum, an economic practicability, and an instrument sufficiently powerful to support Soviet foreign policy. If the potential and strength of the West continue to develop, it may be expected that the size of the Soviet army will increase. The second factor appears to be related to the productivity of Soviet labour, which has been increasing, although slowly. By 1957, it can be expected that more manpower could be devoted to the army, even with continued industrial expansion and with continued growth of the other arms. Also, the population is still expanding, making possible an increase of the army's strength. The third factor is governed by Soviet foreign policy in the next five years. If the West is right in expecting Russia again to withdraw when confronted by superior forces, it must be concluded that the size of the Army is less likely to increase in order to support foreign policy than to provide a defensive minimum.

74. Consideration was probably given to all these factors when the present size of the Soviet Army was decided in 1946. The absolute total strength of the Army was probably set nearer the ultimate requirement in peacetime than was that of either the airforces or the naval forces. On balance, it is believed that the Army may increase in size by 1957. A minimum requirement would probably not exceed something of the order of 4,000,000 men.

75. European Satellites. As of 1 July 52, the armies of the European Satellites (excluding East Germany) contained at least 1,100,000 men. By mid-1957 it is estimated that their strength (including East Germany) will have increased to approximately 1,600,000 men.

76. Communist China. The Chinese Communist Forces in mid-1952 are estimated to have  $2\frac{1}{4}$  million regulars in the Field Forces, and  $1\frac{1}{2}$  million regulars in the Military District forces. In addition, there are some 4 to 5 millions in the Peoples Army of whom less than half are armed. By mid-1957 the Field Forces strength may be 3 to  $3\frac{1}{2}$  millions, that of the Military District forces some 2 millions. No change is expected in the Peoples Army strength though more may become armed. This estimate is based on the assumptions that by 1957 the Chinese Communists will wish to achieve balanced forces sufficient to over-run and garrison continental East and South-East Asia in case of a general war and that meanwhile no substantial fear of war against the Soviet Union will have arisen. It has heretofore been Chinese Communist policy not to increase the regular forces merely for the sake of numbers. Equipment and training, rather than manpower, are the limiting factors.

Composition

77. Soviet Union. The Soviet Army is organized into 175 line divisions, of which 105 are rifle; 40 are mechanized; 25 are tank; and 5 are cavalry divisions. In addition, there are an estimated 45 artillery and antiaircraft artillery divisions. On balance there would seem to be no evidence to suggest that the size or nature of the division will alter substantially by 1957. Similarly, there is no evidence which would indicate a requirement for more than 175 - 200 divisions. Soviet armour policy suggests an investment of a long-term order, and a radical change in the percentage of the Army which is not mechanized and armoured cannot be anticipated.

78. There are no firm indications of the size and organization of Soviet airborne forces. It is estimated, however, on the basis of the extensive training known to have taken place, that at least 100,000 paratroops are available. In addition, it is estimated that large numbers of line troops have received elementary air transportability training. Principal limitations on the employment of airborne forces will be the availability of transport lift. If Soviet war potential has increased generally by 1957, it can

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be expected that a larger number of airborne formations will have been created.

79. European Satellites. As of July 1952 there are estimated to be approximately 72 European Satellite line divisions. By mid-1957, it is estimated that there may be as many as 114 Satellite (including East German) line divisions, including 25 tank or mechanized divisions.

80. Communist China. As of 1 July 1952, the Chinese Communist regular ground forces are estimated to be organized into approximately 220 divisions in five (possibly six) Field Armies, with a strength of at least  $2\frac{1}{4}$  millions. In addition there are  $1\frac{1}{2}$  million regulars of the Military District forces, and some 4 to 5 millions in the Peoples Army of whom less than half are armed. No major changes in composition are to be expected by mid-1957. In general, the organization will probably follow the pattern used in operations in Korea, based on armies of three divisions and army groups of three or more armies as tactical commands within the Field Armies. The Field Armies can be expected to assume operational control of the various theatres within or, if required, outside China. There will also be organized coordinations of air, airborne and amphibious elements with the ground forces.

#### Status of Supply

81. Soviet Union. It appears that the Army possesses stocks of material adequate for its present size. It is probable that a considerable effort is being made to build up stockpiles against the outbreak of war. By mid-1957, it is not likely that serious shortages will exist, but it is possible that much equipment will be obsolete or obsolescent.

82. European Satellites. By mid-1957, it is expected that 11 European Satellites armies with the possible exception of Albania will have received adequate supplies of Soviet equipment for their active forces, but to a lesser degree for mobilization purposes.

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83. Communist China. Equipment is a mixture of Chinese, Japanese, British, U.S. and some Soviet equipment of Second World War design. Recently the Chinese Communists have received increased amounts of Soviet heavy equipment. By mid-1957 the Chinese Communist forces can reasonably expect to provide for an army of 3 to 3½ millions proportionately somewhat better equipped than the present forces in Korea, and to have some additional stocks. They will continue, however, to be dependent to a considerable extent on Soviet industry to sustain prolonged offensive operations against a major power.

Disposition

84. Soviet Union. The present disposition of the 175 line divisions is believed to be as follows:

| <u>Location</u>               | <u>Divisions</u> |
|-------------------------------|------------------|
| Germany-Poland                | 24               |
| Austria-Hungary-Roumania      | 6                |
| Western Soviet Union          | 76               |
| Caucasus                      | 19               |
| Middle Asia                   | 17               |
| Far Eastern Soviet Union      | 29               |
| Far East Outside Soviet Union | <u>4</u>         |
| TOTAL                         | 175              |

85. Deployment in 1957 will be governed by the external threat, Soviet strategy, and Soviet relations with peripheral states. Concentrations can be expected to remain in the Western Soviet Union, the Trans-Caucasus and the Soviet Far East. It is probable that a concentration will remain in Eastern Europe, if not in Germany. It is impossible to forecast whether concentrations will remain or increase in Manchuria. Increased concentrations in Manchuria will probably remain desirable.

86. European Satellites. The present disposition of the 72 satellite divisions is believed to be as follows:

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| <u>Country</u> | <u>Line Divisions</u> |
|----------------|-----------------------|
| Albania        | 3                     |
| Bulgaria       | 16                    |
| Roumania       | 14                    |
| Hungary        | 12                    |
| Czechoslovakia | 11                    |
| Poland         | 16                    |
| Total          | 72                    |

Mobilization Potential

87. Soviet Union. It is estimated that the Soviet Union has about 47 million males between the ages of 15-49, of whom approximately 36 million are fit for military service. About 7 million are either in the army or have had army service and are considered to be immediately available on mobilization. No major change is expected by mid-1957.

88. Potential speeds of mobilization are estimated to be as follows:

| <u>Period</u> | <u>Line Divisions</u> | <u>Total Line Divisions*</u> | <u>Strength of Ground Forces</u> |
|---------------|-----------------------|------------------------------|----------------------------------|
| M - Day       | 175                   | 175                          | 2,500,000                        |
| M / 30 Days   | 320                   | 345                          | 8,000,000                        |
| M / 180 Days  | 320                   | 470                          | 11,000,000                       |
| M / 365 Days  | 470                   | 520                          | 12,000,000                       |

This potential exceeds estimated requirements.

89. European Satellites. An estimate of the number of line divisions<sup>\*</sup> which the Satellites may have by mid-1957<sup>\*\*</sup> follows:-

\* Total line divisions include those undergoing training.

\*\* It should be noted that it is not possible to give an accurate forecast of the final totals and all that can be safely stated is that the number of line divisions in each Satellite will have increased by 1957. These figures therefore should be accepted with reserve and reviewed in accordance with changing conditions. In addition, any increase in the number of Satellite line divisions on mobilization would be dependent on the provision of Soviet equipment.

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| <u>Country</u> | <u>Line Divisions</u> |
|----------------|-----------------------|
| Albania        | 4                     |
| Bulgaria       | 18                    |
| Roumania       | 18                    |
| Hungary        | 12                    |
| Czechoslovakia | 16                    |
| Poland         | 22                    |
| East Germany   | <u>24</u>             |
| Total          | 114                   |

90. Communist China. Communist China, though at present on a war footing, is only partially mobilized. In case of general war in mid-1957 or before it will be able to place many more people in armed services and essential industries than are so engaged now. Short of general war, throughout the period under review Communist China may be expected gradually to increase the flow of workers into warlike industries.

#### Combat Efficiency

##### Strength and Weaknesses

91. Soviet Union. The senior command of the Soviet Army is ruthless, energetic and experienced. The junior officers, while not of the calibre of the senior command, may be expected to execute orders faithfully. A great mass of young manpower is available for military service in war. The individual soldier is courageous and deeply patriotic, possesses physical stamina and follows his leaders without question.

92. Since 1946 Soviet Army divisions have been progressively reorganized by increases in armour, motor transport, fire-power and personnel.

93. Soviet staff organization is simple and effective, but Soviet headquarters are likely to react more slowly to unexpected changes than those of Western Commanders.

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94. An extensive program of pre-military and military training has been in progress since 1945 to correct a lack of technical personnel and schooled middle and lower grade officers and NCOs. By mid-1957 it is likely that considerable over-all improvement will have been effected.

95. In general, Soviet equipment is adequate both qualitatively and quantitatively. While some types lack the refinement of Western equipment, they are on the whole considered to be equally effective in combat, and in some respects--notably armour and heavy mortars--possess superior combat characteristics over current Western types.

96. Soviet training schedules are intensive and adequate. Discipline is rigid and, in event of war, morale will be high. Any latent disaffection is repressed by an efficient internal security system. No large-scale desertions can be expected as long as the Soviet Army suffers no major reverses in the field.

97. European Satellites. By mid-1957, it is to be expected that all the Satellite armies will have been completely reorganized and equipped on Soviet lines. Morale is expected to improve steadily and by 1957 may have greatly improved, as more and better equipment is received, the status of the army is raised vis-a-vis the civilian population and political indoctrination takes effect.

98. Communist China. A wealth of manpower dominated by police methods and headed by experienced, fanatical officers is the chief strength of the Chinese Communist Army. The Chinese Communist Army is developing into a better force, of Soviet-type organization, with extensive help from the Soviet Union. At present, by Western standards, their combat units are weak in supporting arms; steps are being taken to overcome this deficiency. The Chinese Communists are making excellent use of their experiences in Korea. There is little doubt that by mid-1957 they can produce well-balanced ground forces designed for service against western-trained ground forces anywhere in East and South Asia. This will mean an improvement in supporting arms, administration and supply.

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Relative Efficiency

99. The Soviet Army. It is expected, unless a radical change in the armies of the Western powers takes place in the intervening years, that the Soviet Army in 1957 will still be the most powerful and effective ground combat force in being in the world. Postwar reorganization has stressed mechanization and mobility and improved organic logistic support. This is particularly noticeable in the new rifle division which is estimated to contain four times as much mechanical transport as the old type division. Mobilization and replacement stocks of artillery and armored vehicles exist in ample quantity and quality. The divisions of the peacetime Soviet Army are believed to represent the highest level of potential combat effectiveness which the Soviet Army is likely to attain.

100. European Satellite Armies. In event of war, European Satellite forces may be expected to fight with varying degrees of enthusiasm and effectiveness. Continued Soviet domination of the satellite armed forces will progressively increase their effectiveness so that, by 1957, all the Satellite armies will have come very close to the standard of Soviet formations, and, with the exception of the Albanian Army, most of them will be fit to take part in front-line operations.

101. Chinese Communist Army. Despite the weakness of the Chinese Communist Army in supporting arms and administrative services, it is the most effective fighting force of all the indigenous armies of the Far East and Southeast Asia. By mid-1957 the Chinese Communists will have improved their efficiency relative to all other indigenous armies of the Far East and Southeast Asia, with the possible exception of the Japanese. They are not expected to achieve the efficiency of corresponding formations in Western armies. In the theatres in which their ground forces will probably fight, however, they can be expected to make up for most deficiencies by superior numbers and ability to use their environment to advantage.



Para-Military Capabilities

102. Soviet Union. The para-military society, DOSAAF, operates under the auspices of the Soviet Armed Forces and has between 15 and 20 million members, including both sexes. It provides pre-induction training of draft-eligible youths in such military skills as marksmanship, anti-gas measures, parachute jumping, and skiing. This training society provides a useful framework for organization of the Zone of the Interior in time of war, particularly with regard to passive air defence personnel and auxiliary units for support of the armed forces. The security police number 400,000, and constitute a military rather than a para-military force, although their missions are largely of a para-military nature. In mid-1957, it is likely that the Soviet government can supplement its regular forces with local popular levies for operations on Russian soil.

103. European Satellites. All satellite nations support specially-selected and trained security police forces. In event of war, these can be expected to support the regimes effectively. It is estimated that the security police of each country have the capability of dealing effectively with any disaffected groups of the population unless the Western Powers are able to provide assistance and direction to the disaffected elements from a nearby area.

104. Communist China. The People's Public Security Force was organized in 1949. In spite of some anti-Communist guerrilla operations on the mainland, present indications are that the Chinese Communist Field Forces, with the assistance of the Military District Troops and the People's Public Security Force, can maintain internal security without prejudice to operations on the frontiers of China and beyond if required. Throughout the period under review the Chinese Communist forces will be capable of sustaining para-military forces in Korea and, short of general war, of maintaining covert aid to insurgent para-military forces throughout South East Asia.

Tactics and Techniques

105. Soviet Army. Soviet ground operations in the past have been characterized by thorough planning rigidly adhered to, mass infantry attacks supported by heavy artillery concentrations and air attacks, exploitation of penetrations by tank units, and careful consolidation of gains. Partisan operations in rear areas have been coordinated with the attack. Soviet commanders have exhibited a disregard for losses in achieving objectives, ability to operate effectively with logistic support below Western standards, and a flair for improvisation to meet tactical needs. There is evidence that the Soviet Army is stressing improvement in river-crossing and amphibious techniques and airborne operations (see paragraph 78). The tactical concept of employment of forces en masse will probably be continued despite reorganization of the divisions so as to increase their potential capability for employment in a more flexible manner than prevailed in the Second World War. The employment of large masses of artillery and armour can be expected in the future. There is as yet no evidence to indicate how the Soviet tactical doctrines will be influenced by their appreciation of the use of atomic weapons by the Western Powers.

106. European Satellite Armies. Under Soviet influence the armies of the European Satellites are expected to conform to Soviet doctrine and practices.

107. Chinese Communist Army. The Chinese Communist Army relies upon massed infantry attacks when the objective warrants the expenditure of manpower. They are well trained in guerrilla tactics. Infiltration of the enemy is exploited. Although Soviet methods will largely form the basis of tactics against Western forces and in the use of heavy weapons, the Chinese Communists will apply tactical methods adopted from their own experiences in many and widely differing theatres in East and Southeast Asia. Throughout the period under review the Chinese Communist Army will remain essentially an infantry force extremely skilful in guerrilla warfare, penetration, and support of local insurgent forces. As a result of

experience in Korea, however, the Chinese Communist Army will contain a substantial portion of all arms especially equipped and trained to meet Western and Western trained native forces and capable of operations on more than one front if required. In case of a general war during the period the Chinese are capable of providing the Soviet Union with paratroops and airborne troops who would exploit the advantages of their language and dialects.

### NAVAL FORCES

#### Strength

108. It is estimated that by mid-1957 the strength of the Soviet fleet will be as follows:-

| <u>Fleet Units</u>                        | <u>Total</u> |
|---|--------------|
| Old Battleships                           | 3            |
| Monitors                                  | 1            |
| Heavy Cruisers                            | 6            |
| Old Heavy Cruisers                        | 1            |
| Light Cruisers                            | 33           |
| Old Light Cruisers                        | 1            |
| Destroyers                                | 184          |
| Old Destroyers                            | 9            |
| Destroyers, Coastal                       | 36           |
| Old Destroyers, Coastal                   | 4            |
| Ocean Escorts                             | 14           |
| ★ Patrol Vessels                          | 1290         |
| ★ Mine Vessels                            | 470          |
| Amphibious Vessels                        | 265          |
| <u>Submarines</u>                         |              |
| ★★ Improved Ocean Patrol and Ocean Patrol | 210          |
| Medium Range                              | 95           |
| Coastal                                   | <u>300</u>   |
| Total submarines                          | 605          |

★ Approximately 200 of the Patrol and Mine Vessel class have sufficient endurance to be of value for seagoing escort duties.

★★ It is believed that the Soviet Union has been successful in its efforts to develop an improved prototype submarine of its own design. This submarine has been tentatively designated "Improved Ocean Patrol". Its performance characteristics are believed to lie somewhere between the conventional ocean patrol type and the high submerged speed type.



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109. Naval personnel strength in mid-1953 is estimated as follows:

|                     |                |
|---------------------|----------------|
| Forces Afloat       | 325,000        |
| Coast Defence Units | 185,000        |
| Marines             | 90,000         |
| Naval Aviation      | 80,000         |
| Total               | <u>680,000</u> |

By mid-1957 personnel strength will have increased in proportion to the increase in the number of ships.

#### Composition

110. The Soviet Navy is composed of six fleets supported by fleet air forces located in four major sea areas which include all the sea approaches to the Soviet Union. The fleets are as follows:

| <u>Fleet</u>  | <u>Number</u> | <u>Administrative Base</u> |
|---------------|---------------|----------------------------|
| Northern      | Unnumbered    | Murmansk                   |
| North Baltic  | 8th           | Tallinn                    |
| South Baltic  | 4th           | Baltiisk                   |
| Black Sea     | Unnumbered    | Sevastopol                 |
| North Pacific | 7th           | Sovetskaya Gavan           |
| South Pacific | 5th           | Vladivostok                |

In addition there are four independent flotillas located in the Caspian Sea, Danube River, Dnieper River and Amur River.

#### Status of Supply

111. The wide physical separation of the maritime frontiers of the Soviet Union and inadequate Soviet-controlled water routes between these areas compel the maintenance of separate forces together with a decentralized system of logistic support. The present lack of overseas bases tends to tie each of the separate naval forces or fleets to its respective maritime frontier area. The Soviet Navy, thus handicapped, lacks the strategic mobility of other navies. Under present conditions, it would be virtually impossible to effect a rapid wartime concentration of Soviet Naval Forces, drawn from the various fleets, in any given area.

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Disposition

112. Soviet Union. It is estimated that the combatant strength of the Soviet Navy in mid-1957, by fleets, will be as follows:

| <u>Surface Fleet</u>    | <u>Northern</u> | <u>Baltic</u> | <u>Black</u> | <u>Pacific</u> | <u>Total</u> |
|-------------------------|-----------------|---------------|--------------|----------------|--------------|
| Old Battleships         | -               | 1             | 2            | -              | 3            |
| Monitors                | -               | 1             | -            | -              | 1            |
| Heavy Cruisers          | -               | 2             | 2            | 2              | 6            |
| Old Heavy Cruisers      | -               | -             | 1            | -              | 1            |
| Light Cruisers          | 18              | 5             | 8            | 2              | 33           |
| Old Light Cruisers      | -               | -             | 1            | -              | 1            |
| Destroyers              | 54              | 42            | 41           | 47             | 184          |
| Old Destroyers          | 3               | -             | 3            | 3              | 9            |
| Destroyers, Coastal     | 3               | 11            | 7            | 15             | 36           |
| Old Destroyers, Coastal | 0               | 4             | -            | -              | 4            |
| Ocean Escorts           | 0               | 9             | 2            | 2              | 13           |

Submarines

|   |     |     |    |     |     |
|---|-----|-----|----|-----|-----|
| Improved Ocean Patrol and<br>Ocean Patrol | 100 | 40  | 20 | 50  | 210 |
| Medium Range                              | 7   | 42  | 10 | 36  | 95  |
| Coastal                                   | 50  | 100 | 50 | 100 | 300 |
| Total Submarines                          | 157 | 182 | 80 | 186 | 605 |

There is insufficient evidence to estimate the probable whereabouts of amphibious, patrol or mine vessels.

113. European Satellites. With the exception of an old destroyer and three old submarines in the Polish Navy, the European Satellite nations have virtually no naval forces.

114. Communist China. The Chinese Communist Navy is composed principally of ex-U.S. and Japanese vessels, with the addition of some patrol craft and possibly submarines from the Soviet Union. The Chinese Communist Navy is small and relatively ineffective; its chief capability would be minelaying in coastal waters.

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Mobilization Potential

115. Since the Soviet Navy does not maintain a large reserve fleet, but maintains its ships in operational readiness, the mobilization of the Navy would not be a major problem. It is estimated that by M plus 30 days the Soviet Navy could be increased to a total of 800,000 personnel (exclusive of Naval Aviation), which would include 90,000 additional men for the Marine and Coast defence units and 110,000 additional men for the forces afloat.

Combat Efficiency

116. Strength and Weakness. The main strength of the Soviet Navy lies in its large numbers of ships, aircraft and men. It has large numbers of mines stockpiled and there is no evidence to indicate that there is a shortage of torpedoes or ammunition. The main weakness of the Soviet Navy is its lack of trained and combat experienced personnel. This is reflected in its operational efficiency. However, intensive training since 1946 has done much to reduce this weakness. The standard of the submarine force must now be considered equal to that of the German Navy in the early phases of the Second World War.

117. Relative Efficiency. The efficiency of the Soviet Navy is below but approaching the standards of the United States and Canadian navies.

118. Tactics and Techniques. Very little is known of the tactics likely to be employed by the Soviet Naval Forces. There have been instances where the Soviets were known to ignore aids to gunnery control and navigation as they were distrustful of them. It is expected that there will be good cooperation between the sea and air forces. Mines will probably be used extensively for both offense and defence. Amphibious operations will probably be carried out in a reasonably efficient manner, although the Soviet amphibious concept appears to envisage short haul operations. It is believed that efforts are being made to develop techniques for coordinated air/submarine operations. The addition of longer-ranged cruisers and destroyers to the Soviet fleet increases its capability for offensive operations.

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## AIR FORCES

### Strength

119. From mid-1952 to mid-1957 it is assumed that Soviet Air Force strength will remain at approximately 20,000 aircraft. The breakdown of these forces showing the re-equipment with jet aircraft is shown in Appendix "A" to this paper. At present, the European Satellite air forces have a low combat effectiveness owing to the large numbers of obsolete aircraft in their forces. It is assumed that they will be re-equipped with modern aircraft. The Satellite Air Order of Battle for the period 1952 to 1957 is attached to this paper as Appendix "B". The disposition of the Air Forces of the Soviet bloc is attached as Appendix "C".

120. The major components of the Soviet Air Force will continue to be the Air Force of the Soviet Army, the Long Range Air Force, Fighter Aviation of Air Defence (PVO), Naval Aviation, and the Aviation of the Airborne Forces. It is not considered that the proportional strength of these components nor their roles will change in the period 1952 to 1957 with the exception that they will be re-equipped with modern jet aircraft and with this re-equipping programme their capabilities will increase.

### Aircraft Performance

121. The maximum performance figures for the aircraft which will be contained in the above components are listed below: (Speeds are given in knots, heights in feet, and ranges in nautical miles)

#### (a) Fighter (Interceptor Day and All-Weather)

|                |                        |
|----------------|------------------------|
| Maximum speeds | - 650/SL<br>800/30,000 |
| Combat ceiling | - above 60,000         |
| Combat radius  | - 200                  |
| Climb          | - 3 minutes to 40,000  |

#### (b) Fighter (Penetration)

|                |                        |
|----------------|------------------------|
| Maximum speeds | - 620/SL<br>570/30,000 |
|----------------|------------------------|

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Service ceiling - 50,000  
Combat radius - 650

(c) Ground Attack

Maximum speed - 525/SL  
Service ceiling - 35,000  
Combat radius - 375

(d) Light Bombers

Maximum speeds - 535/SL  
500/20,000  
Service ceiling - 50,000  
Combat radius - 950

(e) Medium Bombers

|                      |                        |  |
|----------------------|------------------------|--|
| Jet - Maximum speeds | - 535/SL<br>485/30,000 | Piston - Maximum speeds -<br>300/SL - 375/30,000 |
| Combat radius        | - 1800                 | Combat radius -<br>2400                          |
| Service ceiling      | - 48,000               | Service ceiling -<br>40,000                      |
| Bomb load            | - 10,000               | Bomb load -<br>10,000 lbs                        |

(f) Heavy Bombers - 1957

|                      |                        |   |
|----------------------|------------------------|---|
| Jet - Maximum speeds | - 450/SL<br>425/30,000 | Piston- Maximum speeds -<br>300/SL - 400/30,000 |
| Combat radius        | - 3,500                | Combat radius -<br>4,000                        |
| Service ceiling      | - 45,000               | Service ceiling -<br>40,000                     |
| Bomb load capacity   | - 10,000 lbs           | Bomb load capacity -<br>10,000 lbs              |

Bases

122. The three Soviet base areas closest to Canada are the Chukotski Peninsula area in North Eastern Siberia, the Kola Peninsula area around Murmansk and the Baltic area. Although the Chukotski Peninsula area is the closest to Canada and therefore, at present, considered the most important, there exists no known bases in this area capable of sustained medium bomber operations. By 1957, however, it is considered that these base areas will

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have lost much of their importance as a Soviet strategic bomber in the long range class will be able to operate from other areas where the logistic difficulties are not so great. However, it is also considered that for tactical and airborne attack, the three base areas mentioned above will be improved so that by 1957 the limitations of air bases in these areas should not pose a serious factor in the capabilities of the Soviets to mount attacks of this nature against North America.

#### Maintenance, Serviceability and Operational Rate

123. At present the maintenance of aircraft, though probably less complete and thorough than that required by United States or Canada is vastly improved over the standard met by the Soviets during the Second World War. Maximum operational capabilities for medium heavy bombers is estimated to be approximately 85 per cent of the number in operational units, and sustained capability is estimated to be approximately 50 per cent of the number in operational units over a three-month period.

#### Armament

124. It is estimated that by 1957 Soviet bombers will be fitted with turrets equipped with 12.7mm guns or 23mm guns. The turrets containing these guns would be remote controlled with a hemispheric sighting, electronic computer and search and tracking radar. Vulnerable points in their bombers could be protected by bullet proof glass or armour plate which would offer protection against .5in projectiles striking at an angle. By this date their fuel tanks would probably employ self-sealing covers with excellent low temperature characteristics.

125. At present the Soviet Union has very little experience in the field of strategic bombing and in the past have shown deficiencies in the navigational blind bombing and ECM fields. However, current estimates of Soviet bomber equipment include blind bombing aids, search radar, navigation fixing and ECM equipment and on this basis, it is estimated that Soviet long range aircraft have an increasing capability in long range navigation, all weather

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flying, radar navigation, high altitude blind bombing and radar jamming. It is estimated that by 1957 Soviet capabilities in this field will still be below those of the United Kingdom and United States but will be sufficient to carry out attacks using one or all of these principles.

Civil Air Fleet

126. The Civil Air Fleet is a semi-military organization under the control of the Minister of War. At the present time it contains approximately 1800 two-engine transports and possibly very small numbers of four-engine transports. It is considered that by 1957 it is possible that the strength of this organization will rise to approximately 2,800 twin-engine transports and a number of four-engine transports not exceeding 200-250. It is considered that a considerable portion of the twin-engine transports and all of the four-engine transports could be made available for airlift operations by curtailing the normal civil transport functions of the Civil Air Fleet. The number of aircraft that would be passed to the Ministry of War for military duties would probably be in the neighbourhood of 1500 aircraft.

127 - 149. NOT USED.

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DEVELOPMENT OF NEW WEAPONS

Atomic Energy

150. General. It is known that since 1945 the Soviet Union has assigned a very high priority to its atomic programme and it is assumed that the general function of the organization is to produce atomic weapons. The atomic programme will probably continue to receive top priority during the next five years.

151. Raw Materials. It is considered that Soviet uranium supply at the present time is adequate for requirements. By processing relatively low grade ores the Soviet Union can probably continue to produce all the uranium it will require during the next five years. There is evidence that the Soviet Union is mining thorium ores but very little is known of the ultimate destination or use of these ores.

152. Production of Fissile Material. The Soviet Union has been producing plutonium since about 1948 and has probably been extending its production facilities steadily since that time. It is known that it has established a large heavy water industry and it is possible that heavy water has been adopted as a moderator in Soviet piles. However, the possibility that the interest in producing large quantities of heavy water is in order to make a thermo-nuclear weapon cannot be discounted. At the present time it is not possible to estimate the rate of plutonium production. Tests of the debris from the 1951 Russian atomic explosions suggest that the Soviet Union may have an isotope separation plant in operation, but the evidence on this point is somewhat inconclusive. It is believed that the Soviet Union has been building a plant but it is not possible at the moment to state whether it has come into production. It can be said, however, that if and when such a plant does come into operation it will mean a significant increase in the rate of fissile material production as well as a capability to produce bombs of various calibres (i.e. with kilo-tonnage

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yields of from about 15 or 20 to about 100).

Radiological Warfare (RW)

153. No information is available on Soviet work in this field, but it is felt that reactor capacity will probably be employed in the manufacture of A bombs, rather than radiological weapons. The Soviet Union would, presumably, be able to produce the latter, however, should it decide to do so. The use of pile-wastes for RW would probably be hampered by the same difficulties that have been encountered in the West.

Biological Warfare (BW)

154. Advances in the field of BW will depend largely on the discovery of improved agents and methods of agent-dispersion, and on the ability to predict the spread of epidemics. By 1957 the Soviet Union should have available guided missiles charged with BW agents, probably in the form of cluster bombs. The Soviet Union could also have adequate production facilities for BW agents, and will be able to produce any quantities that may be required.

155. No information is available about Soviet work in the field of BW against animals or crops, but it must be assumed that research in that field is being carried out, and that agents will be available, at least for sabotage use.

Chemical Warfare (CW)

156. The rapidly-expanding Soviet chemical industry will be able to support very large scale production of G-agents, and stockpiles of charged weapons will exist. It is unlikely that the Soviet Union will be able to improve significantly on GB, but it may have agents with better cold-weather performance or greater persistence, or which are more easily produced than GB.

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157. By 1957, the Soviet Union will have a well-fitting respirator; improved detectors for G-agents and clothing with improved resistance to nerve-gases should be available. It is likely that new drugs will be developed which give better protection against G-agents than those now in use.

#### Guided Missiles

158. Very little is known on the guidance and control systems of Soviet guided missiles, with the exception that the Soviets are carrying on with the aid of German scientists their experiments in electronics and celestial guidance. Although there is evidence that the Soviet Union is producing guided missiles, no Soviet guided missiles are known to be operational at the present time. Consequently, the following is based mainly on information in the guided missile field collected before 1948 and Soviet requirements and capabilities in this field.

159. Surface-to-air missiles. By mid-1957 the Soviet Union should have operational quantities of rocket-propelled missiles with a range of 10 to 20 miles, effective to an altitude of from 50,000-60,000 feet. The war-head weight will be 100 to 300 lbs. Guidance will be command or beam rider and the missile will be fitted with a VT fuze. If the Soviet Union makes good progress in the design and manufacture of guidance equipment a surface-to-air missile with a range of 50 miles or greater could be in use. Such a missile could use ram-jet propulsion and be fitted with terminal homing equipment.

160. Air-to-Surface. Although it is known that the Soviet Union has been interested in this type of missile, it is conceivable that less effort will be accomplished here than to other types of missiles. However, there is little doubt that they could by 1957 possess glide and free falling bombs of various sizes equipped with command guidance, television, or infra-red homing. Although the proper use of these missiles is in attacks against such targets as convoys, bridges, etc., they could be used against heavily-ground-defended targets to avoid excessive losses.

161. Surface-to-Surface. It is considered that Soviet field tests have been carried out on the German V-1 and V-2 and that by 1957 improved versions of these missiles would in all probability have a range of from 200 to 250 nautical miles. The Soviet Union also has the experience of the German scientists in the experimental field of the A10 guided missile which was a two stage rocket with the V-2 as a second stage. It is considered that by 1957 the Soviet Union could have a rocket of this type

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with a range of approximately 2500 nautical miles. On this basis, certain targets within North America would be exposed to guided missile attack from the Soviet Union. Reports indicate that the Soviet Union has investigated the launching of V-1 missiles from submarines. Given this capability, the Soviet Union would be able to attack targets at a maximum distance of 200 to 250 miles from the coast. It is also quite conceivable that such missiles could be equipped with atomic warheads.

162. Air to Air Missiles. Very little is known of Soviet developments in the field of air-to-air missiles. However, it is estimated that by mid-1957 there could be available air-to-air missiles with a maximum range of 10,000 yds, probably fitted with semi-active radar or infra-red homing and VT fuses.

#### Aircraft Development

163. Bombers. In the heavy bomber field, the Soviet Union has demonstrated the Type 31, a four-engined bomber approximately one third larger than the TU-4. It is possible that this aircraft may have been selected by the Soviet Union as a replacement for the TU-4. While earlier estimates suggested that the Type 31 may have been the fore-runner of a series of prototypes, it is now considered that this aircraft, if powered by turboprop power-plants developing at least 5000-6000 h.p., would make a suitable heavy bomber capable of attack against all important targets in Canada and the United States. This aircraft with the improved power-plant installations would be able to fly a two-way mission of 3000 miles radius at approximately 400 knots at 40,000 feet, with a bomb-load of 10,000 lbs.

164. Although there is no information available, it is possible that a B 52-type might be demonstrated in 1954. Limited numbers could appear in units by 1957. The aircraft could have the following estimated performance: combat range - 6,000 n.m; combat radius - 3,000 n.m; max speed at S.L. - 500 knots; bomb load - 10,000 lbs; service ceiling - approximately 50,000 ft.

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165. There is information available on the development of the EF-150 medium jet bomber by a group of German technicians in Soviet Union. This aircraft, reported to weigh approximately 113,000 lbs. and powered by two axial-flow turbojets, is expected to be demonstrated in the near future. Preliminary performance estimates, based on the installation of the Soviet-designed 11,500-pound-thrust axial-flow turbojet engines, indicate that the combat radius of the EF-150 is 1200 n.m., combat ceiling, 36,000 ft and maximum speed at 30,000 ft, 490 knots.

166. In the light bomber field, the Soviet Union has already developed two outstanding jet bombers, the IL-28 and the Type 35. It is expected that these aircraft will be improved; for example, afterburners or some auxiliary power could be employed for short bursts of speed.

167. Fighters. There is information which indicates continued Soviet research and development in the field of high performance aircraft. It is considered that present research efforts are being directed towards supersonic aircraft, powered by rocket motors or combinations of rockets and turbojet power-plants. The development of this type could be completed by 1954. Such an aircraft could have the following estimated performance: maximum speed S.L. - 650 knots; maximum speed, 30,000 ft - 800 knots; combat ceiling-above 60,000 ft. A day interceptor and an all-weather interceptor with this performance could be in operational use at least in limited numbers by 1957.

168. Engines. There is very little technical intelligence available on Soviet gas turbine development. In addition to present operational turbojet engines, however, the Soviet Union is known to have under development two turbojet engines, rated at approximately 10,000 and 11,500 pounds static thrust respectively. It is further estimated that the basic performance of future engines will be augmented at take-off and under combat conditions by methods of liquid injection, integral rocket

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boost, and auxiliary burning in afterburners using special high-performance fuel.

169. Development trends of Soviet turboprop engines are such that it is considered that the Soviet Union will have available for production by 1953 or 1954, engines the S.L. static ratings of which will be of the order of 7000 - 8000 shaft horsepower.

#### Electronics

170. The Soviet Union is now considered capable of designing and producing any electronic equipment required in war, although even by 1957, when scientists and technicians to support a very active electronics programme will be available, it is doubtful if the Soviet Union will be able to produce simultaneously all the electronic equipment it desires.

171. By 1957 in the communications field, it is considered that emphasis will be placed on VHF and UHF equipment. All fighters may have VHF radio decimeter links, and long-distance lines will carry a great deal of the communications traffic now on high-frequency point-to-point links.

Jamming equipment will be given a high degree of priority, both for radar and communications. Attempts will be made to produce jammers capable of interfering with missile-guidance systems and VT fuzes.

172. Ground radars will probably continue to improve, possibly in the form of Soviet versions of Western sets. An airborne radar for fighters is a logical development, although there is as yet no evidence of its use. It is likely that most of the early warning systems on the coast of the Soviet Union will continue to improve and important areas will be ringed with radar-controlled anti-aircraft artillery. It is probable that the Soviet Union will have an efficient medium-range navigation system, probably operating in the 150 megacycles region, covering both European Russia, the Far East and possibly the Arctic. Blind landing

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equipment may be in wide use.

173. Guidance systems for missiles will probably have been developed. Proximity fuzes could be in good supply by 1957. The Soviet Union may have some effective anti-radar paints which would be available at least for limited applications such as "Schmorkels". Many infra-red devices will be in the development stage by 1957.

#### Underwater Warfare and Naval Weapons

174. Submarines: By 1957 Soviet work on closed-cycle engines may have reached the stage at which submarines of considerably-improved performance have been produced. It is also possible that the Soviet Union will, by that date, have some boats powered by nuclear energy. Anti-sonar coatings may be in use by 1957.

175. Mines: It is thought that future improvement in mines will be mainly in the field of fuzes. The Soviet Union is capable of manufacturing the highly sensitive equipment required for good influence fuzes, and is likely to produce mines which will not be easily swept. Atomic explosives will be available for mine-filling.

176. Torpedoes: The main improvement in the field of torpedoes will probably be the construction of better seawater batteries, enabling torpedoes to attain high speeds and better ranges. It is possible that the Soviet Union will develop oversize torpedoes for coastal defence. Various improved homing devices may appear, and radio-or wire-guidance may be employed, particularly in coastal defence. Good long range pattern-running torpedoes will also be available.

177. Hydrofoils: Soviet work on hydrofoils may, by 1957, have advanced sufficiently for them to build troop or cargo carriers, particularly for use in combined operations.

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Army Weapons and Equipment.

178. By mid-1957 the following new equipments are expected to be in service. These estimates are based on estimated Soviet requirements:

- (a) New medium tank. Increased armour, a gun with better performance than that of the 85 mm and gun stabilization are expected.
- (b) Improved gun performance of the 122 mm in the JS 3 heavy tank.
- (c) Improved ammunition design for field and anti-tank guns with possible introduction of squash head ammunition for use against tanks.
- (d) New and improved A.A. guns with remote firing gear.
- (e) Individual infantry anti-tank weapon of the Panzerfaust type.
- (f) New, probably recoilless, anti-tank weapon using shaped charge ammunition for use within the infantry battalion.
- (g) Improved methods of mine-detection and clearance.
- (h) A transport aircraft having tail-loading characteristics as well as a glider larger than the Type 24 Yakovlev.
- (i) An improved man-portable flame thrower with greater range than that of the ROKS-3.

Arctic

179. There will be considerable improvement in the ability of submarines to operate under the ice for prolonged periods, which will enable them to remain in the North for most of the year. By mid-1957 icebreakers will probably be able to travel through the sea-ice of most Arctic oceans throughout the year, which will make it possible for Northern bases to be reached by sea at any time. This will have a significant bearing on the ability of the Soviet Union to supply lodgements in the North.

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180. There will be some improvement in vehicles for arctic operation, and if gas-turbines have become generally available, the operational reliability of vehicles in winter will be greatly increased. Batteries with better cold weather performance will be in use by 1957, which will have a significant bearing on the operation of internal combustion engines and radio equipment in the cold.

181. The gradual introduction of jet engines and gas turbines in aircraft will reduce the difficulties of air operations in the Arctic in winter. Improvements in the methods of airfield construction will make it possible to base medium bombers in the Arctic in most localities at any time of the year. Navigation in high latitudes will not present any great difficulties.

#### Medical

182. Soviet advances in medicine are likely to follow the Western pattern fairly closely. By mid-1957 antibiotic production should have expanded considerably and should be able to supply all normal requirements, both in quantity and type. The standard of public health and sanitation is likely to improve gradually, as more trained doctors become available.

183. In the field of aviation medicine there will be further improvements in anti-G-suits, which will contribute to the effectiveness of fighter aircraft. Better methods will become available for the prevention of motion sickness, particularly amongst troops in aircraft or at sea.

184. The Soviet Union will be likely to follow Western work in the search for drugs to protect against the effects of nerve-gases and will investigate methods of alleviating radiation sickness.

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ENEMY CAPABILITIES

STRATEGIC CONCEPTS

185. It is considered that the military objectives of the Soviet Union in a major war commencing in 1957 would be:

- (a) To establish Soviet control over the Eurasian land mass and to control or neutralize the United Kingdom and the island chain of the Far East;
- (b) To defend the Soviet Union against enemy attacks; and
- (c) To disrupt the war effort of the United States and Canada.

186. The Soviet Union would attempt to achieve these objectives by campaigns in Western Europe, the Near and Middle East and the Far East, together with sea and air offensives against the United Kingdom and North America and the occupation or neutralization of other vital areas.

187. The Soviet Union will not be capable of launching an invasion of North America in 1957, except against Alaska. Neither could the Soviet Union launch a successful invasion of the United Kingdom, even after an atomic attack, until it had established an adequate base area in Western Europe and gained control of the sea and air.

188. In the event of war the Soviet leaders would probably estimate that their probability of success would be greatest if they launched full-scale offensives in a number of areas concurrently. Such action might be preceeded by Soviet-inspired diversionary action by one or more Satellites.

189. In the event of a general war between the Soviet Union and the Western Allies, it is considered that Soviet action would take the following general forms:

- (a) Concurrent operations against:
  - (i) Western Europe
  - (ii) The British Isles (aerial bombardment and sea and air interdiction of lines of communication)
  - (iii) The Near and Middle East (including the Balkans)
  - (iv) The Far East

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- (v) Canada and the United States, including Alaska  
and the Aleutians
- (vi) Allied sea communications
- (vii) Targets of great importance to the Allies, including  
areas from which Allied strategic bombers would  
operate.
- (b) Sabotage and subversive activities against Allied interests  
in all parts of the world, concurrently with (a) above.
- (c) Defence of the Soviet Union against hostile attack.
- (d) As soon as feasible, operations against:
  - (i) The Scandinavian Peninsula
  - (ii) Italy
  - (iii) The British Isles
  - (iv) The Iberian Peninsula.

190. Soviet attacks against the North American Continent, including Alaska and the Aleutian Islands, would have the objectives of disrupting the war effort of Canada and the United States, and causing the retention of more of their military forces than are necessary for continental defence, particularly during the initial stages of mobilization. Additional objectives of Soviet operations against Alaska would be the neutralization of base areas from which the Soviet Union could be attacked, the disruption of Allied sea lines of communication, and possibly the temporary seizure of air bases to support limited attacks on other North American areas.

191. The Soviet Union will appreciate the strategic value of Iceland, Greenland and Spitzbergen, and may attack them with the object of interdicting Allied lines of communication in the North Atlantic area and so isolate Allied forces in combat and base areas from overseas support.

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POSSIBLE COURSES OF ACTION AGAINST NORTH AMERICA

Atomic Attack

192. By 1957, the Soviet Union will have a large number (of the order of one thousand plus) atomic bombs. Since atomic attack is the principal means by which the Soviet Union can achieve maximum results in the reduction of the North American war effort, it appears probable that atomic weapons will be used from the outset of a war. A portion of the Soviet atomic stockpile will undoubtedly be reserved for the destruction of air bases in the United Kingdom and the Middle East, which pose a direct threat to the Soviet Union itself. A substantial part, however, will be employed against North America, although it is improbable that this number would be sufficient for an attempt to eliminate North America from the war. Atomic attacks may be supplemented by biological and perhaps chemical attacks.

193. Because of the great dependence of Canadian industry on that of the United States and the small war potential of Canada as compared with that of the United States, the Soviet Union will consider targets in the former country comparatively unprofitable. Therefore, most, if not all, of the atomic bombs delivered on North America will be directed against the United States.

194. Atomic weapons could be delivered on North America by the following methods:

- (a) Bomber aircraft.
- (b) Guided missiles with atomic warheads launched from merchant ships or submarines.
- (c) Torpedoes with atomic warheads fired into key harbours from submarines.
- (d) As bombs detonated in the holds of merchant ships in key harbours.
- (e) As mines laid in key harbours by merchant ships (not necessarily of Soviet registry) or submarines.
- (f) Covertly by bomber or commercial-type transport aircraft

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disguised with Canadian or United States markings, or by major commercial air carriers of foreign registry.

- (g) As "in transit" commercial shipments, thereby allowing substitution or "switching" en route since customs inspection is not usually made at the port of entry; or, smuggled by Soviet agents in United States or Canadian tugs, yachts, fishing schooners or other small sea-going vessels. Either of these methods might lead to loss of strategic surprise, however.
- (h) Shipment of atomic bomb components as household effects or supplies, under cover of diplomatic immunity. Shipment of an assembled bomb by this method is also possible.

It is believed that the majority of atomic bombs allotted to North America will be delivered by bomber aircraft.

#### Air Operations

195. It is considered that the following are the possible forms of air attack which the Soviet Union will be capable of employing against North America in mid-1957:

- (a) Two-way missions against any target in Canada and the United States by heavy bombers; and one-way missions against any target in Canada and the United States by Medium bombers from bases in the Chukotski or Murmansk areas.
- (b) Two-way missions by medium bombers from bases in Chukotski to targets in an area bounded by San Francisco - Winnipeg - Belcher Islands.
- (c) Two-way missions by medium bombers carrying out a single air refuelling from bases in Chukotski and Murmansk to the whole of Canada and the United States, except the south-eastern States.
- (d) Attacks by two-stage guided missiles from Chukotski against targets in an area bounded by San Francisco - Winnipeg -

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Belcher Islands.

- (e) Attacks by guided missiles launched from submarines against targets within 250 nautical miles of the North American coastline.
- (f) Attacks by tactical aircraft, accompanied by escorting fighters, against the Western half of Alaska from bases in Chukotski.

196. Strategic Air Attack. The Soviet Long Range Air Force has the capability of carrying out attacks at any height from 2,000 to 45,000 feet, although low-level attacks would probably be confined to coastal targets. It is estimated that most strategic attacks will be made at a height above 20,000 feet and under all-weather or night conditions. It is also considered that most, if not all, attacks will be made with atomic bombs, although some aircraft may carry incendiary, bacteriological, chemical or conventional weapons. It is probable that individual targets will be attacked either by single atomic bomb carriers or by a group of one to four aircraft carrying atomic and other weapons. In any case, it is not thought that saturation raids on any one target will be carried out, but that the probable attacking force will consist of one to four bombing aircraft, or will be a composite force of twenty or less aircraft. It is considered that most raids will be two-way missions either by long-range aircraft or by medium-range aircraft employing one aerial refuelling. One-way missions will only be carried out under exceptional circumstances.

197. Tactical Air Attacks. Although aircraft of the IL-28 or Type 30 classes pose a threat to the western half of Alaska, it is not considered that the performance of Soviet light bombers will have increased sufficiently by 1957 to enable them to attack other areas of North America.

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Naval Operations

198. The sea offensive against the United States and Canada could include:

- (a) The mining of ports and approaches by merchant ships and submarines before or on D-day and by submarines after D-day.
- (b) Submarine and raider attacks on shipping. It is expected that long-range Soviet submarines will be on station in North American coastal waters before D-day and that some raiders will be on station in the Atlantic and Pacific Oceans.
- (c) Small amphibious operations to land sabotage teams from submarines.
- (d) Attacks on ports in the form of special operations, possibly including attacks by submarine-launched guided missiles with conventional and atomic warheads, and atomic bombs introduced by merchant ships before or on D-day or by submarine. In addition, midget submarine attacks might be carried out on shipping in harbours and approaches, although this is considered unlikely in view of the distances involved.

199. The extent of mining of ports and approaches is limited only by the number of long-range submarines and merchant ships available for this type of operation. It is considered that only a limited number of Soviet submarines would be maintained on station in North American coastal waters after the commencement of a war in 1957. It is further considered that any amphibious operations employing submarines would be confined to a very few attacks on isolated targets of prime military importance. The extent of special operations against ports cannot be forecast, but it is considered that these would be limited to major ports.

Amphibious Operations

200. It is estimated that naval resources available to the Soviet Union in the Far East will permit a maximum sea-lift against Alaska and the

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Aleutians of 8,000 - 12,000 troops for the assault phase, and then only under optimum conditions. The employment of Soviet merchant ships would allow the transportation of a large (about 30,000 - 40,000) follow-up force. The lack of suitable landing craft and the probable difficulty of logistic and air support suggest that amphibious operations would be confined to the Aleutian Islands and the coast of Alaska north of Bristol Bay; climatic conditions will limit amphibious operations in this area to the period from July to November. Operations against Alaska would probably have as their immediate military objectives the destruction or seizure of coastal installations of military importance.

#### Airborne Operations

201. The present transport aircraft of the USSR are of the Dakota type. Consequently, the present capabilities of Soviet airborne attacks on any large scale are limited to a comparatively small area of Alaska. It is considered twin-engine transports of this type will continue to predominate in the Soviet military air forces. While this situation continues the Soviet Union might employ airborne operations to seize lightly-held airfields, to destroy or occupy military installations and to otherwise create a situation requiring considerable countereffort to destroy or dislodge the invaders. Existing base facilities in Northeast Siberia would place some limitation on the employment of transport aircraft in conjunction with the other tactical aircraft, bombers and fighters, which would also be using the airfields. However, by mid-1957 aircraft of the IL-18 or TU-70 type will probably be available for airborne attacks against this country to a strength of 150 or 180. These aircraft will probably have a combat radius of from 1800 to 2150 nautical miles and will carry from 60 to 70 fully equipped paratroops.

202. The Soviet Union could employ a maximum of 125 four-engine transports on two-way missions dropping a force of 7,500 to 8,750 paratroops in one area within the range of the aircraft. All or any part of this force could be used against individual targets. On one-way missions Soviet four-engine transports could carry an airborne force against any target in Canada and the USA. They could employ upwards of 500 twin-engine transports against Alaska from bases in the Chukotski area.

203. The solution of the formidable logistical problem presented by a large airborne operation would be difficult.

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Operations against North Atlantic Island Approaches

204. Iceland. The Soviet Union will be capable of air and naval and possibly airborne operations against Iceland, and of landing small assault and sabotage forces from cargo vessels in Icelandic waters on D-day, although logistic support of such forces would be difficult. Submarine attacks against Allied lines of communication in the area of Iceland and mining of Icelandic ports are likely.

205. Greenland. The Soviet Union is capable of submarine attacks against sea lines of communication and air attacks in this area.

206. Spitzbergen. The Soviet Union is capable of seizing Spitzbergen on the outbreak of hostilities.

Internal Threat

207. Canada. The Labour Progressive Party and elements of the foreign language groups constitute the Communist Party of Canada. While its strength of card-carrying members is only 8,000 to 11,000, the Party can depend on the active or passive support of about 60,000 persons. By 1957 these numbers will be approximately the same, although some supporters will undoubtedly remain quiescent in the event of war.

208. United States. In June, 1951, the Communist Party, USA, reportedly had a membership of 32,650. Undoubtedly this figure does not represent the Party's full strength. The membership of the Communist Party has been decreasing. In the event of war many Communist sympathizers and adherents will undoubtedly remain quiescent.

209. General. The Communist Parties of both countries will seek through their propaganda organs to promote the idea that the Western Powers forced the war upon an unwilling Soviet Union. They could make use of local issues, distorted to suit their own purposes, to foment discontent and could camouflage their work behind front organizations. The Parties will be capable of these actions even if they were declared illegal, their presses banned and their overt leaders interned, because of the existence of underground organizations.

210. The Communist Parties will be capable of sabotage by encouraging slow-downs and inciting labour unrest with a view to causing strikes in



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critical industries, particularly in the fields of transportation and communications. The Communist Parties continue to emphasize their programmes for the infiltration of basic industries.

211. In the event of war, the better-known sabotage agents, such as fire, explosives and abrasives, could be used. In addition, the Communist Parties are considered capable of the employment of bacteriological and chemical agents. The use of radiological agents by saboteurs is considered unlikely.

212. It is expected that native Communists will commit widespread sporadic acts of sabotage at the outset of a war with the Soviet Union. Implementation of security counter-measures is expected progressively to decrease Communist effectiveness. The Communists could also attempt a carefully planned and controlled sabotage operation. This action would be most effective if directed against vital installations and industrial complexes slightly before or at the same time as the start of the war. However, such a campaign could only be mounted at the risk of losing strategic surprise.

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MOST PROBABLE COURSES OF ACTION AGAINST NORTH AMERICA - MID-1957

213. It is estimated that the most probable courses of action against North America will be as follows, in a war with the Soviet Union commencing in mid-1957:

- (a) Strategic air attacks, employing a substantial part of the Soviet Union's atomic stockpile as well as other weapons of mass destruction or conventional bombs, as follows:
  - (i) Two-way missions against any target in Canada and the United States by heavy bombers.
  - (ii) Two-way missions by medium bombers from bases in the Chukotski Peninsula to targets in an area bounded by San Francisco - Winnipeg - Belcher Islands.
  - (iii) Two-way missions by medium bombers with a single air refuelling from bases in Chukotski and Murmansk to the whole of Canada and the United States, except the south-eastern States.

Most strategic attacks will be made at a height above 20,000 feet and under bad-weather or night conditions. The probable attacking force will consist of one to four bombing aircraft or will be a composite force of twenty or less aircraft.

- (b) Attacks by tactical aircraft, accompanied by escorting fighters, against the western half of Alaska from bases in the Chukotski Peninsula.
- (c) The mining of ports and approaches by merchant ships and submarines before or on D-day and by submarines after D-day.
- (d) Submarine and raider attacks on shipping. Long-range Soviet submarines are expected to be on station in North American coastal waters before D-day. Some raiders will be on station in the Atlantic and Pacific Oceans.
- (e) Small amphibious operations to land sabotage teams from

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submarines.

- (f) Attacks on ports by submarine-launched guided missiles, or by atomic bombs introduced by merchant ship before or on D-day or by submarine.
- (g) Amphibious, airborne or combined amphibious-airborne operations against installations of military importance in Western Alaska and the Aleutians, and airborne attacks against other important areas, such as the Nome-Fairbanks-Anchorage areas. These attacks could be in the form of amphibious, airborne or combined amphibious-airborne operations of up to divisional size. Airborne operations against other areas of Canada and the United States could employ 125 four-engined transports to drop a force of 7,500 - 8,750 paratroops in an area bounded by the California-Oregon border to the Pacific coast - Regina - Churchill.
- (h) Attacks against the North Atlantic Island approaches in the form of air and naval operations against Iceland, possibly including the landing of small assault or sabotage forces by sea and air on D-Day; political subversion and sabotage; air attacks against Greenland; and the seizure of Spitzbergen on the outbreak of hostilities.
- (i) Attempts to cause dissension and disaffection through psychological warfare and subversion.
- (j) Attempts to encourage slowdowns and incite labor unrest with a view to causing strikes in critical industries, and in addition physical sabotage employing fire, explosives and abrasives and bacteriological and chemical agents.

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PROBABLE ORDER OF BATTLE OF SOVIET AIR FORCES - 1952-57

APPENDIX "A" to JIC 56(52)

of 1 August 1952

| ROLE                            | FORCE    | MID-1952 |        | MID-1953 |        | MID-1954 |        | MID-1955 |        | MID-1956 |        | MID-1957 |        |
|---------------------------------|----------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|
|                                 |          | JET      | PISTON | JET      | PISTON | JET      | PISTON | JET      | PISTON | JET      | PISTON | JET      | PISTON |
| Day Fighter                     | Tactical | 2500     | 3100   | 3700     | 1900   | 5200     | 400    | 5600     | -      | 5600     | -      | 5600     | -      |
|                                 | Naval    | 500      | 1000   | 1000     | 500    | 1300     | 200    | 1500     | -      | 1500     | -      | 1500     | -      |
|                                 | PVO      | 1500     | 1650   | 3100     | -      | 2950     | -      | 2800     | -      | 2600     | -      | 2350     | -      |
| All Weather Fighter             | Tactical | -        | -      | -        | -      | -        | -      | -        | -      | -        | -      | -        | -      |
|                                 | PVO      | -        | -      | 50       | -      | 200      | -      | 350      | -      | 550      | -      | 800      | -      |
| Ground Attack                   | Tactical | -        | 2550   | 100      | 2450   | 700      | 1850   | 1100     | 1450   | 2550     | -      | 2550     | -      |
|                                 | Naval    | -        | 150    | -        | 150    | 50       | 100    | 100      | 50     | 150      | -      | 150      | -      |
| Light, Mine And Torpedo Bombers | Tactical | 550      | 2050   | 1100     | 1500   | 1700     | 850    | 2200     | 350    | 2550     | -      | 2550     | -      |
|                                 | Naval    | 50       | 850    | 350      | 550    | 500      | 400    | 700      | 200    | 900      | -      | 900      | -      |
|                                 | LRAF     | -        | 600    | -        | 425    | -        | 400    | -        | 350    | -        | 175    | -        | -      |
| Medium Bomber                   | LRAF     | -        | 650    | -        | 825    | 50       | 750    | 125      | 625    | 225      | 550    | 325      | 475    |
| Heavy Bomber                    | LRAF     | -        | -      | -        | -      | -        | 50     | -        | 100    | -        | 150    | -        | 200    |
| Transports                      | Tactical | -        | 700    | -        | 700    | -        | 700    | -        | 700    | -        | 700    | -        | 700    |
|                                 | Naval    | -        | 200    | -        | 200    | -        | 200    | -        | 200    | -        | 200    | -        | 200    |
|                                 | LRAF     | -        | 200    | -        | 200    | -        | 200    | -        | 200    | -        | 200    | -        | 200    |
|                                 | Airborne | -        | 450    | -        | 550    | -        | 600    | -        | 600    | -        | 600    | -        | 600    |
| Recon                           | Tactical | 50       | 650    | 150      | 550    | 300      | 400    | 400      | 300    | 400      | 300    | 400      | 300    |
|                                 | Naval    | -        | 300    | 50       | 250    | 150      | 150    | 200      | 100    | 200      | 100    | 200      | 100    |
| Sub-Totals                      |          | 5150     | 15100  | 9600     | 10750  | 13100    | 7250   | 15075    | 5225   | 17225    | 2975   | 17325    | 2775   |
| Totals                          |          | 20,250   |        | 20,350   |        | 20,350   |        | 20,300   |        | 20,200   |        | 20,100   |        |

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**SATELLITE AIR ORDER OF BATTLE 1952-57**

APPENDIX "B" to JIC 56(52)

of 1 August 1952

| COUNTRY                | AIRCRAFT ROLE | MID-1952 |        | MID-1953 |        | MID-1954 |        | MID-1955 |        | MID-1956 |        | MID-1957 |        |
|------------------------|---------------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|
|                        |               | Jet      | Piston | Jet      | Piston | Jet      | Piston | Jet      | Piston | Jet      | Piston | Jet      | Piston |
| BULGARIA               | Fighter       | 10       | 150    | 50       | 150    | 100      | 50     | 200      | -      | 250      | -      | 300      | -      |
|                        | Ground Attack | -        | 40     | -        | 85     | -        | 125    | 25       | 100    | 50       | 75     | 75       | 50     |
|                        | Light Bomber  | -        | 100    | -        | 100    | -        | 125    | -        | 125    | -        | -      | 25       | 100    |
| CZECHOSLOVAKIA         | Fighter       | 35       | 110    | 75       | 100    | 150      | 75     | 225      | 50     | 275      | -      | 300      | -      |
|                        | Ground Attack | -        | 40     | -        | 80     | -        | 125    | 25       | 100    | 50       | 75     | 75       | 75     |
|                        | Light Bomber  | -        | -      | -        | 40     | -        | 100    | -        | 125    | -        | 125    | 25       | 100    |
| EAST GERMANY           | Fighter       | -        | -      | 10       | 10     | 25       | -      | 75       | -      | 125      | -      | 200      | -      |
|                        | Ground Attack | -        | -      | -        | 10     | -        | 20     | -        | 100    | 10       | 140    | 50       | 100    |
|                        | Light Bomber  | -        | -      | -        | 10     | -        | 20     | -        | 100    | -        | 100    | 25       | 75     |
| HUNGARY                | Fighter       | 25       | 105    | 50       | 100    | 100      | 75     | 150      | 50     | 200      | -      | 200      | -      |
|                        | Ground Attack | -        | 70     | -        | 100    | -        | 125    | -        | 125    | 25       | 100    | 50       | 75     |
|                        | Light Bomber  | -        | -      | -        | 20     | -        | 75     | -        | 75     | -        | 100    | -        | 125    |
| POLAND                 | Fighter       | 80       | 75     | 150      | 100    | 250      | 100    | 350      | -      | 350      | -      | 350      | -      |
|                        | Ground Attack | -        | 130    | -        | 125    | -        | 125    | 25       | 100    | 50       | 75     | 75       | 75     |
|                        | Light Bomber  | -        | 50     | -        | 75     | -        | 100    | -        | 125    | -        | 125    | 25       | 100    |
| ROUMANIA               | Fighter       | 20       | 50     | 500      | 50     | 100      | 50     | 150      | 50     | 200      | -      | 200      | -      |
|                        | Ground Attack | -        | -      | -        | 10     | -        | 50     | -        | 75     | 25       | 75     | 50       | 75     |
|                        | Light Bomber  | -        | -      | -        | 10     | -        | 50     | -        | 100    | -        | 125    | 25       | 100    |
| CHINA<br>&<br>N. KOREA | Fighter       | 1000     | 250    | 1250     | 200    | 1500     | 100    | 1750     | -      | 1950     | -      | 2200     | -      |
|                        | Ground Attack | -        | 140    | -        | 240    | 30       | 210    | 100      | 140    | 200      | 50     | 200      | 50     |
|                        | Light Bomber  | -        | 250    | -        | 250    | 30       | 250    | 75       | 200    | 100      | 200    | 125      | 150    |



ESTIMATED DISPOSITION OF SOVIET AIRCRAFT - 1957

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APPENDIX "C" to JIC 56 (52)  
of 1 August 52

| Aircraft by Role     | Facing Scandinavia | Facing Western Europe | Facing Mediterranean<br>and Middle East | Facing Far East | TOTAL  |
|----------------------|--------------------|-----------------------|---|-----------------|--------|
| Day Fighters         | 1,950              | 2,100                 | 3,100                                   | 2,300           | 9,450  |
| All Weather Fighters | 100                | 200                   | 400                                     | 100             | 800    |
| Ground Attack        | 450                | 1,100                 | 525                                     | 625             | 2,700  |
| Light Bombers        | 700                | 650                   | 1,100                                   | 1,000           | 3,450  |
| Medium Bombers       | -                  | 300                   | 200                                     | 300             | 800    |
| Heavy Bombers        | -                  | 100                   | 25                                      | 75              | 200    |
| Transport            | 250                | 600                   | 400                                     | 450             | 1,700  |
| Recce                | 150                | 300                   | 300                                     | 250             | 1,000  |
| Totals               | 3,600              | 5,350                 | 6,050                                   | 5,100           | 20,100 |

Facing Scandinavia - Archangel, Baltic, Leningrad, White Sea, Northern Seas Fleet & Baltic Fleets.

Facing Western Europe - Germany, Poland, Czechoslovakia, Byelo-Russia, Carpathia, Moscow, Gorki.

Facing Middle East & Med - N.Urals, W. Siberia, E.Siberia, Albania, Austria, Bulgaria, Hungary, Roumania, Kiev, Odessa, Tauric, Voronezh, Black Sea Fleets, Trans-Caucasus, North Caucasus, Volga, S.Urals, Turkestan.

Facing Far East - Far East, Maritime, Trans Baikal & 2 Pacific Fleets.