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## MAIN TRENDS IN SOVIET CAPABILITIES AND POLICIES 1957-1962

*Submitted by the*

### DIRECTOR OF CENTRAL INTELLIGENCE

*The following intelligence organizations participated in the preparation of this estimate: The Central Intelligence Agency and the intelligence organizations of the Departments of State, the Army, the Navy, the Air Force, The Joint Staff, and the Atomic Energy Commission.*

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*on 12 November 1957. Concurring were The Director of Intelligence and Research, Department of State; the Assistant Chief of Staff, Intelligence, Department of the Army; the Director of Naval Intelligence; the Assistant Chief of Staff, Intelligence, USAF; the Deputy Director for Intelligence, The Joint Staff; and the Atomic Energy Commission Representative to the IAC. The Assistant Director, Federal Bureau of Investigation, abstained, the subject being outside of his jurisdiction.*

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## MAIN TRENDS IN SOVIET CAPABILITIES AND POLICIES, 1957-1962

### THE PROBLEM

To review significant developments affecting the USSR's internal political situation, relations with Bloc states, economic situation, military programs, and foreign policy, and to estimate probable Soviet courses of action through 1962.

### SUMMARY ESTIMATE

1. Both the Soviet internal scene and Soviet external policy continue to be strongly marked by change and innovation. The ascendance of Khrushchev has further accentuated the flexibility and pragmatism of the post-Stalin leaders' approach to their major problems. But none of the changes in Soviet policy suggests any alteration in basic aims or in the concept of an irreconcilable conflict between the Communist and non-Communist worlds. Indeed the Soviet leaders display a great deal of confidence, buttressed by their recent political and technological successes, in the prospects for ultimate victory of their side.

#### Trends in Soviet Foreign Policy

2. The respect of the Soviet leaders for US nuclear power will continue and they are unlikely to initiate general war or to pursue courses of action which, in their judgment, gravely risk general war, over the next five years. At the same time, however, they are probably confident that their own growing nuclear capabilities,

added to their great conventional strength, are increasingly deterring the US and its allies from courses of action gravely risking general war. As a result the USSR probably regards itself as progressively achieving greater freedom of maneuver in local situations.<sup>1</sup> The

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<sup>1</sup> The Assistant Chief of Staff, Intelligence, USAF, does *not* agree with the estimate that the Soviets are likely to feel that they are achieving *greater* freedom of maneuver nor that they will regard the US as *increasingly* inhibited by growing Soviet strengths.

The US has *always* been cautious of risking general war. This is certainly evident to the Soviets. But also evident to them are examples such as Berlin, Korea, Taiwan, and Syria which underline US firmness when a clear challenge is presented.

The Assistant Chief of Staff, Intelligence, USAF, has found no specific evidence or indicators from which the Soviets could derive the opinion that US caution will *increase* as Soviet nuclear capabilities grow. In fact, a convincing case could be made for increasing *Soviet* caution, based on fear that the West would feel compelled to exercise its superior military capabilities before the Soviets might reverse the relative military advantage.

It appears to the Assistant Chief of Staff, Intelligence, USAF, that *increasing* Soviet boldness

Footnote continued on following page.

USSR's posture during the Suez and Syrian crises convinces us that the use of threats will remain a basic element in Soviet policy. At times the Soviet leaders will probably bring the threat of Communist military strength into the open by menacing words or harsh diplomatic exchanges. Moreover, the USSR might go considerably further in certain situations—e.g., by supporting indigenous Communist or other forces in local military action, or even sending Soviet "volunteers," judging that grave risk of general war would not result. Thus the risks of general war arising through miscalculation may increase.

3. But in general the Soviet leaders will probably continue to prefer non-military means of achieving their objectives. They

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during the next five years will be unlikely unless the Soviets attain clear military superiority, or unless the Soviets have reason to expect a wavering or irresoluteness in US policy. The first condition is not believed attainable; the second is not believed demonstrable. The Assistant Chief of Staff, Intelligence, USAF, believes therefore that paragraph 2 should read as follows: "The respect of the Soviet leaders for US nuclear power will continue and they are unlikely to initiate general war or to pursue courses of action which in their judgment, gravely risk general war over the next five years. At the same time, however, they probably regard their own growing nuclear capabilities, added to their great conventional strength, as enforcing caution on the Western powers. The USSR's posture during the Suez and Syrian crises convinces us that the use of threats will remain a basic element in Soviet policy. At times the Soviet leaders will probably bring the threat of Communist military strength into the open by menacing words, harsh diplomatic exchanges, by supporting indigenous Communist forces, or even sending "volunteers," judging that grave risk of general war would not result. The Soviets must recognize, however, that the possibilities of miscalculation in crisis situations are such that general war might nevertheless occur, and that preparedness for it is therefore essential. We remain convinced that the USSR will not desire to let any crisis develop to the point of seriously risking general war."

probably regard the present world situation as ripe to develop further in their favor through continuation of such tactics. While determined to build up their armed strength against any eventuality, the present leaders have probably decided that a continuation of "peaceful co-existence" will best assure against the risks of nuclear conflict and at the same time offer far-reaching opportunities to weaken and divide the Western powers and to promote Soviet influence in the key underdeveloped areas of the world.

4. Almost certainly the Soviet leaders expect further crises as the interests of the two great power groupings clash in the Middle East and elsewhere. They will take a strong line in such crises. Yet we believe that in general they will continue to emphasize such tactics as high-level goodwill visits, broadened contacts, promotion of cultural and other exchanges, expanded foreign trade, long-term credits and technical assistance, and arms aid. Their aim will be to cause further blurring of the lines between the Communist and non-Communist worlds and to undermine and cause a retraction of Western, especially US, strength from around the periphery of the Bloc.

5. The Soviets will almost certainly intensify their efforts to woo the underdeveloped countries, particularly in Asia and Africa, in order to estrange them from the West and to lay the groundwork for growing Soviet influence. The USSR has the economic resources for considerably expanding its "trade and aid" campaign, while its extensive stocks of obsolescent arms will permit it to capitalize further on the desires of many underdeveloped countries to strengthen themselves vis-a-vis their neighbors.

6. The USSR clearly regards the chief immediate opportunities for expanding its influence to lie in the Middle East. It is shrewdly supporting Arab nationalism against the West and thereby attempting to avoid the appearance of seeking undue political influence of its own. It is also conscious of the extent to which vital Western interests are involved in the area, and of the risks which would arise from a direct test of strength between the great powers themselves. Nevertheless, its longer run aims are to eliminate Western military power and political influence from the area, to attain a position from which to control Middle East oil, and ultimately to dominate the area.

7. During the next few years the chief Soviet objective in Western Europe will be to weaken and divide the NATO powers and above all to induce a withdrawal of US military strength. To this end the USSR will continue to promote some form of European security treaty to replace both NATO and the Warsaw Pact. But the USSR will almost certainly remain adamant on German reunification on any terms except its own, however much this may limit its maneuverability in Western Europe.

8. As a means of forwarding their peaceful co-existence policy and of advancing their efforts to neutralize US nuclear striking power, the Soviets will seek on the whole to give the appearance of a flexible and constructive attitude on disarmament. They probably desire some form of simple, "first-stage" agreement with minimum inspection and control but we remain convinced that they will reject comprehensive inspection and controls.

#### Trends in Soviet Relations with Other Communist States

9. The USSR's reluctant acceptance of a degree of Polish autonomy and of Yugoslavia's special position, as well as its recognition of Communist China's stature and role within the Bloc, indicates a continuing belief that some greater flexibility in Soviet relations with other Communist states is both necessary and desirable in order to preserve and strengthen the Bloc. However, mindful of last year's developments in Poland and Hungary, the USSR now seems determined to go slow in any further evolution of its relationships with the European Satellites, and above all to avoid any repetition of the Hungarian or even Polish experiences. It would almost certainly revert to repressive policies in event of serious threats to its position in Eastern Europe. Barring such developments, we think the USSR will pursue a cautious policy of economic aid, adjustment to national peculiarities, and toleration here and there of a somewhat greater degree of Satellite autonomy.

10. The strong identity of interest among the various Bloc regimes, their dependence upon Soviet aid and support, and the USSR's overwhelming military power will tend to maintain the essential solidarity of the Bloc over at least the next five years. But the underlying forces released by developments since Stalin's death will persist, creating further instability within the Satellites. Additional changes in intra-Bloc relations are likely.

#### Internal Developments

11. Two of the major problems posed by Stalin's death have persisted: who is to rule, and how is the ruling to be done. While Stalin's successors agreed on fun-



damental objectives — maintenance of Party dictatorship, continued military buildup, and rapid economic growth — they differed as to the policies best suited to pursue these aims in the conditions of the USSR today. These differences in turn complicated the problem of who was to rule, rendering the leadership unstable.

12. Now, after four years of uneasy collective leadership, Khrushchev has emerged as dominant. Although he still lacks the degree of power achieved by Stalin through the use of police terror, he has disposed of his major rivals and asserted Party mastery over the economic bureaucracy and the military. These developments have probably enhanced the stability of the Soviet leadership, though this leadership will be subject to continuing strain over the next several years as difficult policy problems arise. We think that only the most severe problems could threaten the present leadership arrangements, but, considering the magnitude of the problems which the regime faces, and the risks of failure in the bold programs which Khrushchev has undertaken, issues of such gravity could arise. In such an event Khrushchev would probably move toward absolute rule, if necessary attempting to reinstitute terror for this purpose. But important elements among the elite groups would be alert to and would probably oppose such a development, particularly if a recourse to terror were involved.

13. As to the question of how to rule, the present leadership has shown awareness of the need to overcome the alienation of the Soviet population which has been caused by fear and deprivation and expressed in apathy. Instead of a widespread use of terror, which in the end

might not spare the leaders themselves, another approach was felt to be necessary in order to keep the society cohesive and responsive to central direction. In addition, a shift in emphasis to the use of incentives and the encouragement of initiative seemed to give promise of increasing Soviet strength, particularly in the economic field.

14. This approach has been extensively applied to the Soviet economy. A series of administrative reforms has sought to make better use of specialist knowledge, local talent, and individual initiative. The latest and largest of these is a radical reorganization of industry which seeks to transfer to officials on the spot more powers in the detailed execution of national policy. The incentive program particularly in agriculture, aims not only at stimulating higher labor productivity but also at increasing popular support for the Khrushchev regime. The highly ambitious housing and agricultural programs will probably be successful enough to provide a gain of perhaps as much as one-fifth in per capita consumption over the next five years.

15. The achievement of such a gain would probably produce some increase in popular support, but a consumption program of this size will compete more sharply than heretofore with requirements for industrial investment and defense. This competition has already been partly responsible for the abandonment of the Sixth Five-Year Plan (1956-60) in favor of a seven-year plan for 1959-65. The issue of competing priorities, however, has not been finally settled by this action and is certain to arise again.

16. Most of the changes which have occurred bear the stamp of Khrushchev;

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given his self-confidence and flexibility, the outlook is for further experimentation so long as he remains in power. By and large, we believe that his policies will be successful in generating more positive support among the population and in stimulating a further substantial growth in over-all Soviet power over the next five years. But his changes have created tensions and forces in Soviet society, the ultimate impact of which is difficult to foresee. The policy of a cautious relaxation applied in the intellectual field, for example, has had disagreeable consequences for the regime. Wider contacts with foreign countries have opened the USSR to disturbing influences. Youthful nonconformity is an increasing problem, and a number of critical writers are spreading among a small but increasing circle of readers a climate of dissatisfaction and of impatience with the pace of official reforms. The regime has made little progress in its counterattack upon these forces.

17. Moreover, Khrushchev's expansion of the Party's role as the chief instrument for managing the reform process places a heavy load upon it. With the downgrading of the secret police, the Party apparatus has assumed new responsibilities for insuring political conformity; with the abolition of most economic ministries it now has a much larger role in carrying out centrally determined economic policies. If the Party proves inadequate to these tasks, the prospects for success of the regime's ambitious economic and political programs will be greatly diminished.

18. The role of the party becomes even more critical when viewed in a perspective extending beyond the period of this esti-

mate. For the next five years at least, the regime's totalitarian controls over the Soviet people almost certainly will not be seriously compromised. But over the longer run it is far from certain that the Soviet citizen can be educated to a higher level, urged to exercise his own initiative, given increasing opportunity for comparisons with other countries, and encouraged to expect a significant improvement in his living standard, and at the same time submit without question to a leadership which incessantly proclaims, and frequently exercises, the right to make all important decisions for him, regardless of his personal desires. Eventually it may turn out that the benevolent totalitarianism which Stalin's successors seek to achieve is an impossible contradiction and that the forces released in the search for it will require the leadership to revert to earlier patterns of control or to permit an evolution in some new direction. Even the latter changes would not necessarily alter the basic threat which a dynamic USSR poses to the Free World.

#### Trends in the Growth of Soviet Power

19. Notwithstanding the many problems confronting the Soviet leaders, we foresee a further rapid growth in the chief physical elements of Soviet power over the next five years. Particularly notable will be the continued rapid expansion of the Soviet economy, further scientific and technical advances in a wide variety of fields, and a continued buildup and modernization of the USSR's already massive military strength.

20. *Economic Growth.* Soviet economic growth over the next five years will continue to be faster than that of the US,

though somewhat slower than during the Fifth Five-Year Plan (1951-55), chiefly because of some redirection of investment and a declining rate of growth in the labor force. We estimate the average growth in Soviet GNP as around six percent annually during the next five years. In dollar terms Soviet GNP would rise from about 40 percent of US GNP in 1956 to about 45 percent in 1962. However, estimated Soviet defense expenditures, in dollar terms, are already about equal to those of the US.

*21. Scientific and Technical Progress.* The rapid expansion of the USSR's technical and scientific capabilities, critical to the growth of Soviet industrial and military power, will also continue. Although total Soviet scientific capabilities may not equal those of the US, the USSR has been able to make comparable achievements and to forge ahead in certain areas of critical military and industrial significance by concentrating its efforts in these fields. The number of university level graduates employed in scientific and technical fields already exceeds that in the US, and probably will be about 40 percent greater than that in the US by 1962.

*22. Military Strength.* Of outstanding significance has been the USSR's progress in the development of advanced weapons and delivery systems:

a. The USSR is developing a variety of improved nuclear weapons, particularly those employing thermonuclear principles; its present stockpile could include weapons with yields ranging from about 4 KT up into the megaton range. By 1958-59 the most powerful Soviet bombs could probably yield up to 20 MT, but missile warheads would still have yields

considerably less than this. We also estimate a substantial Soviet program for expanding fissionable materials production, but the availability of such materials will continue through 1962 to be a limiting factor on the size of many military as well as nonmilitary programs.

b. The USSR has probably tested an ICBM vehicle and we now tentatively estimate that it could have a few (say 10) prototype ICBMs available for operational use in 1959 or possibly even earlier, depending upon Soviet requirements for accuracy and reliability.<sup>2</sup> The USSR could now have available ballistic missiles with maximum ranges of 75, 175-200, 350, and 700 n.m.; by 1958 it could probably also begin to have available a 1000 n.m. IRBM.

23. Meanwhile, the USSR will probably continue to maintain a balanced and flexible structure of strong naval, air, and ground forces, supplementing these with new weapons. Nevertheless, the manpower strength of the Soviet forces appears to have been reduced considerably from Korean War peaks, and some further reductions and streamlining are likely, though not to a substantial degree.

a. We estimate that the Soviet long-range bomber force has grown to some 1,500 bombers at present, though it includes a larger number of jet medium bombers and fewer heavy bombers than we had previously estimated. While we think that this force will not change significantly in size during the period of this estimate, we believe that it will be further strengthened by the replacement of obsolete BULL piston medium bombers

<sup>2</sup>The estimate made in this paragraph must be considered tentative pending completion of SNIE 11-10-57: The Soviet ICBM Program.

with jets, by the introduction of additional heavy bombers, and by further development of inflight refueling. However, any estimate of future strength must be highly tentative, especially for heavy bombers, since Soviet policy in these respects is still shrouded in doubt. Subject to such qualifications, we estimate that the Soviets may by mid-1960 have about 400-600 heavy bombers and tankers of jet and turboprop types, in a long-range air force totalling something between 1400 and 1700 bombers. We also estimate that the number of heavy bombers and tankers will probably remain fairly steady after 1960, while the total long-range bomber strength will probably decline slightly.<sup>3</sup>

b. Further strengthening of Soviet air defenses will occur as a result of improved fighter performance, a higher proportion

<sup>3</sup> The Assistant Chief of Staff, Intelligence, USAF, believes that the USSR would regard it as essential to have a more substantial intercontinental attack capability, providing for greater strategic flexibility and a much larger capability for re-attack—in short, a force which would provide the Soviets a greater chance of success in general war—while they are working to acquire an additional nuclear delivery capability with new weapon systems, including long-range missiles. He therefore believes that the 400-600 heavy aircraft estimated above would all be bombers and that by mid-1961 there will be 300-500 additional aircraft as tankers in operational units.

The Assistant Chief of Staff, Intelligence, Department of the Army, and the Deputy Director for Intelligence, The Joint Staff, believe, on the other hand, that the number of heavy bomber/tanker aircraft and the total number of long-range aircraft are both more likely to approximate the lower than the higher figures given above. See their footnote on page 33.

of improved all-weather fighters, better radar and communications equipment, and widespread employment of improved surface-to-air and air-to-air missiles.

c. The Soviet ground forces have been extensively reorganized and modernized; further improvements in firepower and mobility are likely during 1958-62. Training and doctrine are being adapted for modern warfare, nuclear as well as non-nuclear. We still estimate about 175 line divisions, but their actual strengths probably vary from somewhat in excess of 70 percent of war strength to as low as 30 percent. Increasing attention is being paid to airborne and air-transportable forces, whose capabilities will increase considerably by 1962.

d. The Soviets are engaged in an extensive naval program, especially in the submarine category. There are recent indications that a shift to new designs of submarines may be in progress. Their submarine force is estimated at about 475 at mid-1957, including nearly 300 submarines of modern design. We estimate that the submarine force will approximate 560 submarines by mid-1962. The first submarine propulsion reactor could now be available, and by mid-1962 the USSR could probably produce about 20 nuclear-powered submarines. A few converted missile-launching submarines could now be in operation; and by mid-1962 the USSR may have a total of 50 in all categories of submarines equipped with guided missile armament.

## DISCUSSION

## I. INTERNAL POLITICAL DEVELOPMENTS

### The Victory of Khrushchev and the Party

24. During the past year Khrushchev has succeeded in re-establishing the Communist Party's dominance over other elite groups in Soviet society and, within the leadership itself, has established his own pre-eminence. By means of the June and October 1957 purges and the industrial reorganization, the Party demonstrated its supremacy over the economic bureaucracy and the military, while Khrushchev, through skillful political maneuvering, eliminated his chief rivals from the Party Presidium.

25. The June purge of Malenkov, Molotov, and Kaganovich ended four years of joint rule by a small circle of Stalin's most prominent heirs. Both policy differences and personal rivalries were involved. The losing group not only distrusted many policy innovations sponsored by Khrushchev, but probably was alarmed by the way in which his energy and political acumen were enabling him gradually to assume a dominant role. From the key position of First Secretary, he had built a political machine within the Party apparatus, managing Party appointments so thoroughly that, although he seems to have faced defeat in the Presidium in June, he won an apparently hard-fought and decisive victory once he managed to transfer the dispute to the larger Central Committee.

26. Then in October, the Party moved against Marshal Zhukov, who had been elevated to full membership in the Presidium at the time of the June purge. It is likely that the Party feared an attempt by Zhukov to use his new political strength to resist certain aspects of Party control in the armed forces. He is known to have been impatient with such controls in the past. However, nothing in the Zhukov affair suggests that he had been preparing a coup by the armed forces against the Party or that he even had political ambition of this kind. But Khrushchev and other Party leaders were probably extraordinarily

sensitive to the potential dangers of a military force not thoroughly under Party domination. Furthermore, Khrushchev himself may have regarded Zhukov as a potentially dangerous rival.

27. Although there remains a gap between Khrushchev's present powers and those accumulated by Stalin, he does not appear, for the present, to have any close rivals. Probably no major policy can be adopted without his approval. A majority of the new Presidium are his proteges, and the others lack resources sufficient to oppose him if they were inclined to do so. But while Khrushchev has gained a clear field for his policies, he has not used police terror against his colleagues in the manner of Stalin and has indicated in various ways that he does not propose to try. Moreover, though the Presidium is still the major repository of political power and is likely to remain so, Khrushchev by his recourse to the Central Committee in both June and October has re-emphasized the formal subordination of the Presidium to that body.

### Future Leadership Problems

28. The same factors which led to the events of 1957 are likely to generate recurrent problems in Soviet politics over the next five years. Certain of these problems will arise from the Party leadership's continuing efforts, while utilizing the professional skills of specialized groups, to suppress the accompanying tendency for these groups to expand their political influence. Others will be created if Khrushchev, as seems likely, attempts to place beyond challenge his own position as undisputed head of the Party, and thereby of the USSR.

29. We believe that, despite the decisive victories scored by Khrushchev and the Party during 1957, these closely-related problems will provide continuing elements of instability in the Soviet leadership. As for Khrushchev's own position, even some of his present supporters in the Presidium and Central Committee may in time come to doubt the wis-

dom of his bold foreign and domestic policies. Others may become alarmed as they see in his maneuvers a tendency to one-man rule and perhaps a threat to themselves. The problem of succession to Khrushchev might add a further unsettling element; the usual intrigues within the Party are likely to be intensified by the maneuverings of his colleagues and subordinates to get into position for the struggle which they will anticipate following his death or incapacitation.

30. Furthermore, we do not regard the defeat of the economic bureaucrats and the military as necessarily final. So long as the Party refrains from a resort to widespread terror and continues to place a high premium upon professional competence, these groups will try again to influence policy in directions which accord with their professional interests and assessments. The economic bureaucrats are indispensable to the industrialized Soviet state, and this will tend to restore at least some of their political influence. The military impatience with Party controls which Zhukov represented is too widespread to be eradicated by his ouster and will probably find other spokesmen. A weakening of unity within the Party apparatus would improve the opportunities for such a development, since these groups probably will remain important enough to be regarded as desirable allies in intra-Party intrigues.

31. These elements of instability will subject the leadership to strain during the next several years as difficult policy problems arise. We think it probable, however, that only the most severe problems could threaten the present leadership arrangements. Khrushchev will almost certainly attempt further to consolidate his position, perhaps following up the Presidium purge with the elimination of opponents in the Central Committee as well. In view of his present strength and demonstrated political skill, only an issue grave enough to produce a general coalition against him appears likely to upset him or to force him into more than temporary compromises.

32. But considering the magnitude of the problems which the regime faces, and the

risks of failure in the bold programs which Khrushchev has undertaken, we believe that issues of such gravity could arise. For example, the dislocations created by his industrial reorganization program, coming on top of an overambitious combination of programs — defense, heavy industry, agriculture, and housing — might so aggravate existing problems as to produce a severe crisis. So might foreign policy moves which appeared to raise the risk of general war to a level considered foolhardy by spirits less bold and confident than Khrushchev. In such grave instances his colleagues and perhaps even his defeated opponents might muster a formidable challenge.

33. We do not regard Khrushchev's denunciation of Stalin's use of terror against political opponents as a guarantee that, under such circumstances, or perhaps even in anticipation of them, he would not seek to reinstitute police terror to achieve absolute rule. Instead, we think it probable that, if other means were exhausted, he would make such an attempt. But important elements among the elite groups would be alert to, and would probably oppose, such a development, particularly if a recourse to terror were involved.

34. Whatever developments occur within the Soviet leadership over the next five years, they are not likely to result in widespread civil violence or to involve broad sections of the population in active politics. Instead, we believe that any changes which take place will be confined within a relatively small group which will continue to monopolize political power, although it may exercise that power with a somewhat greater regard for public morale.

### Changes in Internal Policy

35. At present, despite the many problems created by the changes in internal policy, the regime's position vis-a-vis the population remains basically stable. A number of elements of stability have long been evident: the regime's monopoly of physical force and the means of communication, the vested interests which tie important groups to the existing system, the unifying effect exerted by the Party, a wide-spread apathy towards politics

and a general disbelief in the possibility of radical change. In addition, Western contacts with the Soviet population have revealed a wide-spread sense of national pride over the USSR's material accomplishments and its role as leader of a world bloc.

36. Nevertheless, Stalin's successors recognized that his policies toward the Soviet population had produced so much apathy, antagonism, and fear that they were depriving the regime of popular support and inhibiting economic growth. Although differing among themselves on many issues, they generally agreed on the need, while maintaining as much control as possible, to find ways to narrow the rift between the regime and the population. In contrast to Stalin's harshness and mistrust, they apparently started from the premise that the Soviet citizen is a basically loyal supporter whose energy and initiative, if encouraged and rewarded rather than repressed, can serve the regime's purposes. Most of the post-Stalin internal changes stem from this premise, of which Khrushchev is the prime exponent. He is, however, no less an exponent of the equally important principle that the Party retains unlimited rights to determine the pace and scope of relaxation, to reverse it at will, and to intervene at all levels of society.

37. In consequence, changes have been extensive but cautious. In the political sphere, they include the leashing of police terror, the destruction of the Stalin cult (but also the endorsement of much of Stalin's work), and an effort to humanize the style of leadership, both central and local, so as to narrow the rift dividing those in authority from the masses. Within the Party itself, a number of special channels by-passing the formal organization have been eliminated, the semblance of democratic procedures has been revived, and "loyal" criticism from rank-and-file members is encouraged in an effort to restore the Party's vigor and make it an effective political instrument. In economic matters, incentives are more widely used and a series of administrative reforms, culminating in a radical reorganization of industrial administration, has sought to make better use of specialist knowl-

edge, local talent, and individual initiative. In the intellectual sphere, the regime has relaxed censorship to allow greater artistic freedom and has permitted, even encouraged in some cases, wider contacts with the West on a variety of levels.

### Impact on Popular Attitudes

38. These innovations have produced mixed results. The lessening of terror has won the regime a favorable reaction from all sections of the population. Economic responses are less clear. Probably a part of the gain in agricultural output is attributable to improved morale among the peasants, but the campaigns for increases in worker productivity and for the rapid introduction of new technology, both dependent upon broad initiative, have to date fallen short of the regime's expectations.

39. Results in the intellectual field have also been largely disagreeable to the Soviet leaders. Wider contacts with foreign countries have opened the USSR to disturbing influences, not only from the Free World but also from Eastern Europe and Communist China. Youthful nonconformity is an increasing problem, especially on the occasions when it extends beyond rebelliousness to disagreement with the official line on matters of principle. A group of writers has arisen who, with bold criticism of the harsh and unpleasant aspects of Soviet life, are spreading among a small but increasing circle of readers a climate of dissatisfaction and of impatience with the pace of official reforms.

40. This consequence of de-Stalinization, stemming from many of the same causes which produced direct challenges to Soviet rule in Poland and Hungary, has led the regime to define more sharply the limits of its liberalization program. Just as the Polish and Hungarian events led to renewed stress on Soviet leadership of the Bloc, so the unorthodox views of writers and students have been countered with a reassertion of Party infallibility. As part of the effort to stifle negative criticism, the propaganda line on Stalin has shifted: none of the crimes charged to him by Khrushchev has been whitewashed,



but emphasis is now laid upon his "positive achievements" and on those of his ideological formulations still regarded as valid. The publication in August 1957 of Khrushchev's vigorous attack on dissident authors, like his recent endorsements of hard-line leaders in Czechoslovakia and East Germany, served notice that the June purge, with its condemnation of dogmatism, was not to be taken as a license for continued liberties.

### Probable Developments in Domestic Policy

41. We do not believe that the foregoing measures indicate a change in the regime's basic intentions. Rather they appear to be an attempt to correct extreme interpretations of approved policies. Over the next several years, the regime is likely to continue its cautious experiments, especially in the economic field, constantly readjusting its policies in search of a better balance between freedom and coercion. We do not believe that the trend towards reform is as yet irreversible, and under circumstances of political crisis reversal may occur. Khrushchev's increasing ascendancy, by freeing him from the need to defend his past policies against the criticism of his colleagues, might facilitate such a reversal in response to difficulties or changed conditions. But the longer the period of relaxation is maintained, the higher the price the regime must pay, in terms of forfeited popular support and new disruption of the machinery of control, if it chooses to return to wholesale harshness in its dealing with the population.

42. Barring such a return, we estimate that, over the next several years, the fear and apathy which Stalinism produced will slowly diminish. Among the majority, this process will probably lead to a somewhat closer identification with the regime, which is being given credit for ending fears of the police and improving living standards. But the regime's own liberalizing policies, as well as Khrushchev's extravagant promises, raise the possibility that popular expectations will outrun actual gains and generate more disappointment than gratitude. A small minority, made

up chiefly of students and intellectuals in cultural fields, appears already to have become so independent in its thinking that it cannot be brought, either by persuasion or pressure to a whole-hearted acceptance of the regime. This group probably will maintain attitudes of dissatisfaction and even some oppositional feelings unless changes proceed far faster than is likely. Since these people are in a position to influence the public opinion now emerging in the USSR, they may be subjected to sterner measures in the future.

43. The regime's chief instrument for managing the reform process is the Party. With the downgrading of the secret police, the Party organization assumed new responsibilities for insuring political conformity; with the abolition of most economic ministries, it now has a much larger role in carrying out centrally-determined economic policies. Its capabilities for these assignments are uncertain; thus far it has demonstrated no marked success in eliminating dissent and has even shown a few signs of being itself infected with the same dissatisfactions which are agitating students and intellectuals. If the Party proves inadequate to these tasks, possibilities for success of the regime's ambitious economic and political programs will be greatly diminished.

44. The role of the Party becomes even more critical when viewed in a perspective extending beyond the period of this estimate. It is far from certain that the Soviet citizen can be educated to a higher level, urged to exercise his own initiative, given increasing opportunity for comparisons with other countries, and encouraged to expect a significant improvement in his living standard, and at the same time submit without question to a leadership which incessantly proclaims, and frequently exercises, the right to make all important decisions for him, regardless of his personal desires. The regime's best hope of managing the resulting tension lies in the activity of a disciplined minority, able, persuasive, highly resourceful, but completely responsive to the wishes of its leaders. Despite its highly favored position, this minority itself is subject to many of the same tensions as the

population at large. Eventually it may turn out that the benevolent totalitarianism which Stalin's successors seek to achieve is an impossible contradiction and that the forces re-

leased in the search for it will require the leadership to revert to earlier patterns of control or to permit an evolution in some new direction.

## II. TRENDS IN THE SOVIET ECONOMY

### Shifts in Economic Policy

45. The Soviet leaders continue to view their economy primarily as an instrument for the creation of national power. Thus heavy industry, and particularly military production, retain first-priority status. But the gap in the priority structure which separates heavy industry from other sectors is being narrowed by a new attitude toward consumption. Along with the traditional emphasis upon heavy industry, higher living standards are being sought in an effort to stimulate higher labor productivity, to generate some active support among the Soviet population, and to remove the stigma of poverty from Communism in order to increase its attractiveness at home and abroad.

46. Accompanying this modification of Stalin's rigid priorities is a recognition that many of his economic methods — reliance more upon coercion than on incentives, extreme centralization of administration, resistance to innovation — are ill-suited to the current requirements of the Soviet economy. Thus his successors have exhibited more concern with material incentives and more readiness to experiment, exemplified in such ventures as the New Lands and corn programs in agriculture and the administrative reorganization in industry. These sweeping moves have been accompanied by a large number of lesser innovations, all designed to modernize an economy which, despite its rapid growth, was still being managed by methods developed during prewar years. Khrushchev has been the chief sponsor of these changes, and his present ascendancy suggests that, apart from such basic matters as state ownership and central planning, all of the institutional features and managerial practices of the Soviet economy are subject to critical review.

47. Both these tendencies — to modify the system of priorities and to revise the economic structure itself — are exemplified in the policy decisions of the last 12 months. First, when

production results during 1956 indicated that the very high growth rates of the five-year plan were threatened by a failure to build enough new industrial capacity, the Soviet leaders refrained from the traditional response of cutting into the consumer sector for extra resources to meet the targets in heavy industry. Instead, they accepted the necessity of at least a temporary slowdown in industrial growth, meanwhile increasing allocations to agriculture and housing. Second, Khrushchev seized upon the defects of the ministerial structure as responsible for the difficulties experienced in 1956 and embarked upon a radical reorganization as the means of regaining the tempo of industrial advance.

48. During the next five years, it is almost certain that various ambitious programs for defense, industrial growth, and popular welfare will turn out to be incompatible. In these circumstances, we believe that the overall defense program would not be significantly curtailed. But the investment resources needed in industry to make acceptable progress towards overtaking American industry might conflict with the requirements of defense officials for expanded military expenditures. Furthermore, Khrushchev's sweeping pledges to improve consumer welfare, made in a bid for popular support in the aftermath of the Satellite crisis and during the Presidium struggle, commit him to achieving a palpable increase in consumption. Well before they reach their targets, however, his agricultural and housing programs will probably compete with defense and industrial investment for both materials and labor.

49. The difficulty of pursuing all these goals simultaneously probably lay behind the decision to abandon the Sixth Five-Year Plan (1956-60) in favor of a seven-year plan for 1959-65. Apparently the regime wished to erase from public record 1960 targets which it doubted its ability fully to meet. Probably it judged that, in the light of industrial lags

in 1956-57 (see paras. 58-59), the original targets for this sector, particularly those for some key industrial materials, could not be reached without cutting too deeply into other programs. If this interpretation is correct, abandonment of the original plan appears to reaffirm and to extend into the future the decision, embodied in the 1957 plan, not to put all-out stress on heavy industry irrespective of the cost to other economic goals. The issue of competing priorities, however, has not been finally settled by this action and is certain to arise again.

### Prospects for Economic Growth

50. Soviet economic growth during the coming five years will continue to be faster than that of the US, though somewhat slower than the pace achieved during the Fifth Five-Year Plan (1951-55). The principal factors behind the past rapid rate of growth have been a high level of investment concentrated in sectors providing most rapid growth, increases in the industrial labor force, and gains in economic efficiency. We believe that a high level of investment will be maintained, amounting to more than one-quarter of GNP (in the US, investment's share is about one-fifth). However, in the future a greater share of total investment will have to be directed to programs in which the returns, in terms of additional production, are relatively low. These programs include expansion of the fuel and raw material base, where a chronic lag in new construction finally produced severe supply stringencies in 1956; development of the eastern regions, where initial investment requirements are high; and the large effort in housing. Total output will grow less rapidly under such a distribution of investment than it did when a greater share of funds were directed into such sectors as machine-building and chemicals.

51. Another major limitation upon rapid growth is the fact that the labor force will not grow as rapidly as before, especially toward the end of the 1957-62 period, as war-reduced age groups move into employment. Whereas during the period 1950-57 the labor force grew by an average of 1.6 million new

workers each year (apparently with the aid of some reduction of military personnel after the Korean War—see para. 98), population growth will provide an average of only about 1.1 million during 1957-62. The planned reduction from 48 to 41 hours in the industrial work week, which will probably be carried out, will reduce the net gain in labor time even further. On the other hand, if further reductions in military manpower occur, they will have some offsetting influence.

52. For these reasons, and because labor cannot be freely drawn from agriculture, the USSR must rely heavily on productivity gains to maintain the extremely high growth rates it desires. There is much room in the Soviet economy for gains in labor productivity resulting from the use of more modern machinery, from a wider and more precise application of incentives, and from improved efficiency in a multitude of planning and managerial activities. As a result of the vigorous attention being given to such problems and Khrushchev's relatively undogmatic approach to them, we expect continued gains in labor productivity over the next five years. The impetus to growth obtained from this source, however, seems unlikely to be so great as to offset the limitations cited above.

53. Thus we estimate that the average yearly growth of Soviet GNP will drop from perhaps as much as seven percent in recent years to around six percent during the next five years. Even so, the USSR will slowly gain further ground upon the US economy, which is expected to grow at an annual rate of about 3.5 percent. In dollar terms, Soviet GNP will rise from about 40 percent of US GNP in 1956 to about 45 percent in 1962. The USSR and the US, however, will allocate resources in sharply different ways. With a GNP only two-fifths that of the US, the dollar value of Soviet defense expenditures is estimated to be about equal to those of the US, and investment is about 55-60 percent as large as American investment; Soviet consumption outlays, on the other hand, have a dollar value only about one-quarter that of US consumption.

### Trends in Defense Expenditures<sup>4</sup>

54. We estimate that in 1957 Soviet defense expenditures are about 15 percent of GNP in terms of rubles (the comparable US figure in dollars is about 9 percent). If our estimates of military trends are correct, defense expenditures will increase gradually, reaching in 1962 a level one-quarter to one-third higher than at present. Since GNP will probably increase at the same rate or faster, the relative burden on the economy will become no heavier in the aggregate, although defense needs will have to compete with other programs for manpower and for specific industrial products, such as electronics.

55. Most of the increase in defense expenditures will be caused by increasing allocations to aircraft, guided missiles, military research and development, and nuclear weapons. These programs together probably account for more than 35 percent of total expenditures at present. By 1962 they are expected to require about 50 percent more resources and to account for nearly 45 percent of total defense programs.

56. Soviet defense expenditures in recent years, when converted into dollar values, appear to be of roughly the same magnitude as US defense expenditures. Thus the Soviet defense effort, which consumes about one-seventh of the USSR's much smaller GNP, produces military goods and services with a dollar value roughly the same as the US. This is owing primarily to the facts that in the USSR military end-items are less expensive, relative to consumption items, than they are in the US, and that the average level of real pay and subsistence provided Soviet military personnel is much lower than in the US.

### Industrial Prospects

57. The Soviet leadership remains committed to rapid industrial growth, with the eventual aim of overtaking US industry in per capita production. The now defunct Sixth Five-

Year Plan, however, already contemplated a lower increase — 65 percent — than the 85 percent claimed during the Fifth. Even this target now is apparently judged too high. As for overtaking the US, total Soviet output is increasing faster than US production but is still less than half that of American industry (see Figure 1).

58. Cumulative failures in completing new installations for several basic industries reached a point in 1956 which produced serious imbalances in the Soviet economy and necessitated a reduction of goals in the 1957 plan. Figure 2 indicates that these difficulties were not overcome during 1957. During 1957, moreover, the building of new capacity for coal, iron ore, rolled steel, and electric power almost certainly continued to lag behind plan. Accelerated production gains would have been necessary during the next three years if the original 1960 targets for these commodities, vital to the growth of other industrial sectors, were to be met.

59. The Soviet leaders hope that the slower growth of the industrial labor force will be offset to some degree by increased production per worker. One of the most important programs for raising productivity is the modernization and re-equipment of industrial plants. This program, of which automation is the ultimate expression, has lagged behind schedule, however, and seems unlikely to catch up. Industry as a whole probably will have to bear the brunt of increased investment in the consumption sectors and also the reduction in total investment at which Soviet sources have hinted in discussion of plan revisions. Within industry, furthermore, increased demands for investment in raw materials may require machine-building, upon which the modernization program depends, to get along with less. Apart from investment problems, inherent difficulties in getting new machinery first into large-scale production and then into use continue to plague Soviet industry. The productivity gains from modernization, therefore, while contributing substantially to industrial growth, are likely to fall short of the USSR's high expectations.

<sup>4</sup> Estimates of Soviet defense expenditures are subject to a wider margin of error than other statistical estimates in this section and should therefore be used with greater caution.

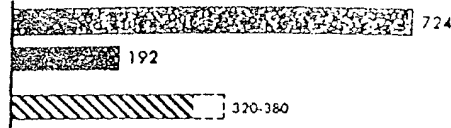
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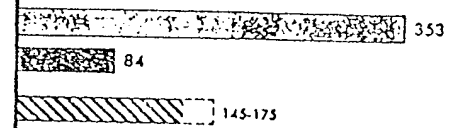
Figure 1

# US AND USSR OUTPUT OF SELECTED PRODUCTS

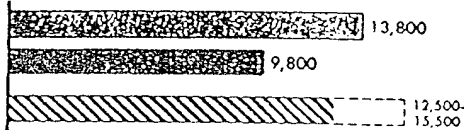
ELECTRIC POWER  
(Billion kilowatt hours)



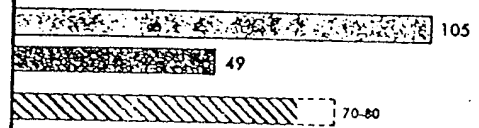
CRUDE OIL  
(Million Metric Tons)



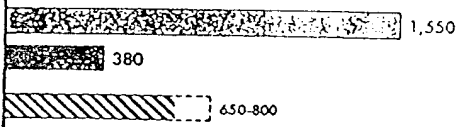
COAL  
(Trillion BTU's)



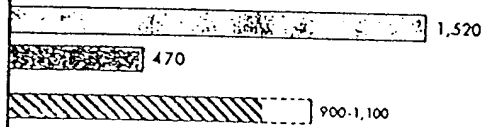
CRUDE STEEL  
(Million Metric Tons)



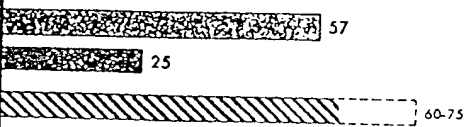
REFINED COPPER  
(Thousand Metric Tons)



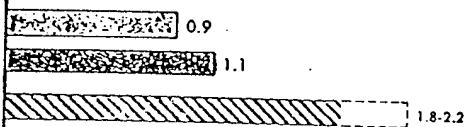
ALUMINUM  
(Thousand Metric Tons)



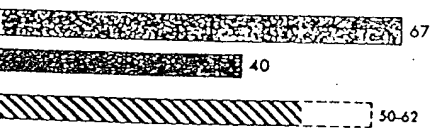
CEMENT  
(Million Metric Tons)



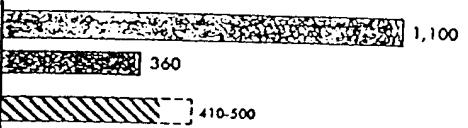
MACHINE TOOLS  
(Billion Dollars)



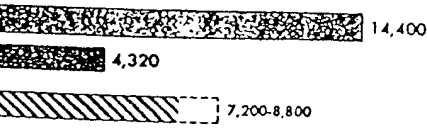
FREIGHT CARS  
(Thousand Units)



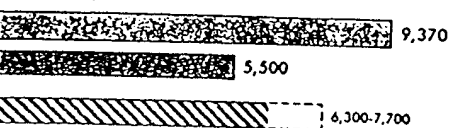
TRUCKS  
(Thousand Units)



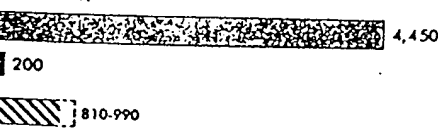
SULFURIC ACID  
(Thousand Metric Tons, 100% basis)



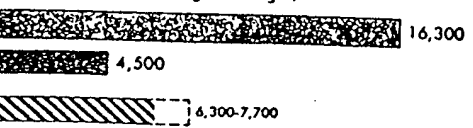
COTTON FABRICS  
(Million Meters)



WASHING MACHINES  
(Thousand Units)



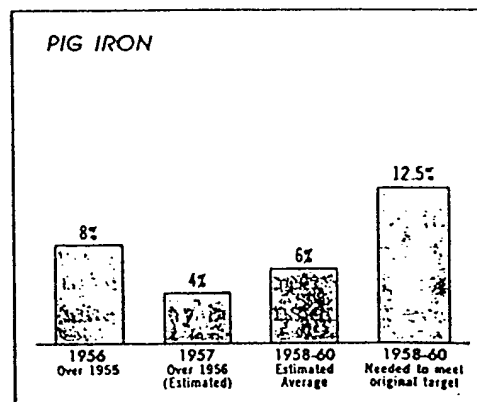
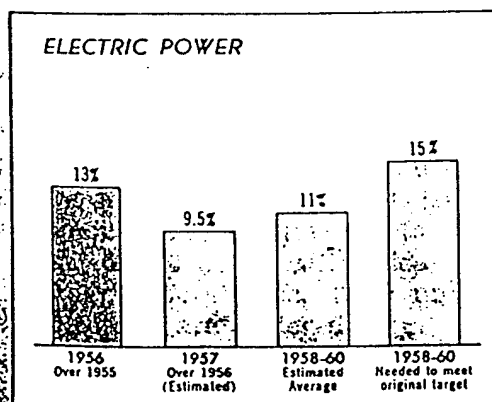
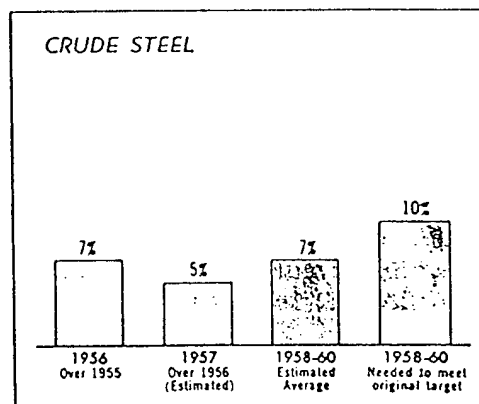
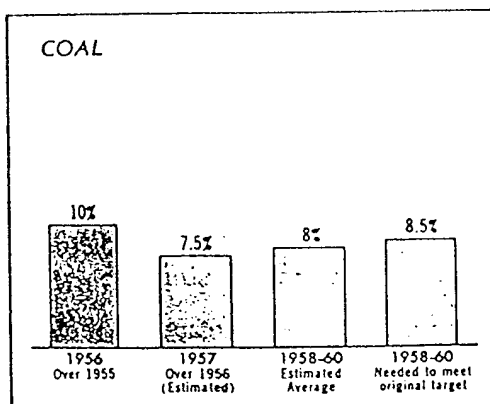
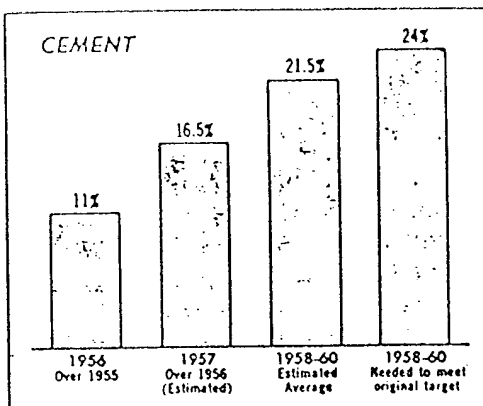
MEAT  
(Thousand Metric Tons, slaughter weight)



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Figure 2

USSR  
ANNUAL PERCENTAGE INCREASES  
IN OUTPUT OF SELECTED COMMODITIES



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60. The Khrushchev regime has laid great stress on another means of raising productivity, by improvement of general economic administration and plant management. The major innovation in this field is the replacement of most industrial ministries with 105 regional economic councils. Basically, the new structure attempts to distinguish between those decisions which define national policy and those which concern its detailed execution and, while maintaining Moscow's monopoly in the first sphere, to leave the second to officials on the spot. We do not believe, however, that the reorganization itself will make much contribution to industrial growth. The inevitable period of initial confusion will perhaps last longer than anticipated. Even over the long run, while many sources of inefficiency will be eliminated, the regional system promises to breed its own bureaucratic excesses and perhaps, because of its greater susceptibility to local interests and consumer pressures, to deform central policy itself. A net gain will probably result, but this is likely to be rather small unless the reorganization is followed by other reforms which are at present only in the discussion stage, such as expansion of managerial rights, a more realistic pricing system, and improved criteria for economic performance.

61. During the coming five years, large-scale transfers of labor from agriculture in order to compensate for productivity shortfalls in industry will be much more difficult to carry out than in the past. Agricultural employment, which declined steadily during Stalin's later years, has risen with the higher priority which his successors have attached to this sector. While one of the ultimate aims of the agricultural program is to resume the flow of labor into industry, the immediate goal is to increase output. During the next five years, prospective agricultural programs seem as likely to increase labor requirements as to reduce them. Khrushchev will be loath to reduce the agricultural labor force until production successes are achieved.

62. Therefore, it appears that the lag in production of basic materials and the relative stringencies in labor and especially in invest-

ment funds available to industry will result in a somewhat slower growth of industrial production than in the past. Against a very large increase estimated at 65-75 percent during the Fifth Five-Year Plan, we believe that the gain from 1957 to 1962 will probably be about 50-60 percent.

### The Consumption Program

63. A third major economic task is fulfillment of Khrushchev's consumption goals, which are more ambitious and more specific than those embodied in Malenkov's economic policy of 1953-54. In place of Malenkov's emphasis upon light industry, priority is now focussed upon agriculture and housing. The goals are unlikely to be attained on schedule, but even the effort required to make substantial progress toward them may involve sharp competition with other priorities. In the distribution of state investment, for example, agriculture and housing together, which received less than one-fourth of the total in 1953, got almost one-third in the 1957 plan. Again, in its attempt to increase peasant incentives, the state markedly increased the prices it pays for deliveries of agricultural products. Great priority is being attached to the state farms, which are currently being rapidly expanded, partly at the expense of the collective farm sector.

64. The major agricultural target is to reach American levels of per capita production of milk and meat, the former by 1958, the latter by 1960-61. Fodder supplies are the primary obstacle, but a large increase in the grain harvest is hoped for. This increase is to be obtained from reduced losses as more machinery makes possible faster harvesting, from higher yields resulting from better cultural practices, and from some further expansion of cultivated area. A plan has been launched to increase the New Lands acreage by about one third in the next two years, partly to provide for proper crop rotation, and Khrushchev may be considering even further expansions of cultivation into marginal areas. The New Lands and any future additions will produce lower crop yields than those obtainable in the traditional areas of cultivation and



will be subject to frequent failures, but we estimate that they will increase the total harvest at a cost acceptable to the Soviet authorities.

65. While many of the major commodity goals cannot be met, agricultural production as a whole will increase faster than population growth and may by 1962 be nearly one-fifth over the peak year 1956. Achievement of US levels of per capita meat and milk output on the stipulated schedule is out of the question, but the progress recently made and the great emphasis now being placed on these branches suggest that the Soviet consumer will note a substantial increase in supplies of animal products.

66. The housing decree of mid-1957 raised the Sixth Five-Year Plan target from 289 million to 329 million square meters. While the state left its own house-building target virtually unchanged, it did increase by about one-fifth the allocation devoted to meeting that target, and it also committed itself to provide additional materials to private builders. If the housing goal is to be met, either a substantial above-plan increase in production of building materials or diversion of them from other uses will probably be necessary. Fulfillment would raise urban housing space per capita above the level attained before forced industrialization was launched three decades ago, but would still leave the Soviet population very poorly housed by Western standards.

67. If these and other programs to raise Soviet living standards retain their present priority, they will probably produce a gain of perhaps as much as one-fifth in per capita consumption between 1957 and 1962. As has been true for the last two or three years, this increase will probably be spread over the bulk of the population rather than directed toward small favored groups. As a result, the regime will probably enjoy some increase in popular support. On the other hand, Soviet failure to make at least the above estimated progress towards higher living standards would considerably undermine Khrushchev's attempt to create an image of a regime dedicated primarily to popular welfare and determined to fulfill its promises to the people. Such a

failure would tend to weaken popular support and might even, by its effect upon worker incentives, damage the prospects for economic growth. To some extent, therefore, the regime's freedom of action relative to the population has been diminished, and the cost of regaining it has been increased.

### Foreign Trade

68. Foreign trade continues to be of minor importance to the Soviet economy, accounting for only about two percent of GNP. While earlier attitudes of rigid autarky have weakened somewhat, the USSR is still far from willing to abandon considerations of self-sufficiency and to enter world markets whenever opportunities arise for economic gain. Trade is instead conducted for quite specific purposes, frequently political, and Bloc members or potential allies are preferred as trading partners.

69. Soviet imports and exports together rose by about one-tenth in 1956 to a total of about \$6.9 billion. Other Bloc states continued to account for about three-quarters of this trade; exchanges with the European Satellites grew by about five percent, and those with Communist China fell as Soviet aid shipments declined. The USSR and other Bloc members continued to boost their trade with underdeveloped countries, and in 1956 five such nations — Afghanistan, Iceland, Egypt, Yugoslavia, and Burma — conducted more than 20 percent of their total trade with Bloc partners.

70. The USSR's harsh economic exploitation of the Satellites, which had gradually softened in the years following Stalin's death, virtually ended late in 1956. As a consequence of policy decisions in the wake of the Polish and Hungarian crises, the USSR has assisted the East European regimes with new credits and the cancellation of old obligations, which together will cost about \$2.5 billion over the next decade. Soviet exports to this area have increased significantly, but the return flow of goods has grown slightly if at all. The current pattern of exchange requires the USSR to increase its shipments of grain and scarce industrial materials such as steel, coal, iron ore, and nonferrous metals, while simulta-

neously importing less Polish coal and Rumanian oil. While these shifts are less of a difficulty to the USSR than are its domestic economic problems, they do serve to aggravate the solution of these larger difficulties.

71. Trade outside the Bloc remains concentrated in the developed nations of Western Europe, which continue to account for about four-fifths of Soviet trade with the Free World. But Soviet trade with the underdeveloped countries, though small, is rising; in 1956 it grew by 35 percent to a total of nearly \$400 million. This trade is still roughly in balance, and drawings on nonmilitary credits extended by the USSR have amounted to slightly over \$100 million since the inception of this program. Thus the credit program, of which the USSR has provided about \$900 million out of the Bloc total of \$1.5 billion, is as yet a negligible drain on the Soviet economy. Even when the utilization of these credits increases, the net drain to the domestic economy will be small. The slowdown during 1957 in

extension of new Soviet credits is due to the exhaustion of the most ready opportunities during the preceding two years rather than to limitations upon Soviet economic capabilities. The USSR will continue to press its foreign credits wherever it sees potential political gains, and considerations of economic impact on the USSR will remain relatively unimportant unless the magnitude of the program increases drastically.

71a. *Civil Air.* The USSR is in the first stages of a determined and vigorous program to enter international air routes and is embarking on an ambitious program to produce a modern civil air fleet. In entering international air routes the USSR is probably motivated more by political than by commercial considerations. The USSR apparently has now realized the significance of civil aviation capabilities as an element of national power and prestige and is developing a growing capability in this field.

### III. TRENDS IN SOVIET SCIENCE AND TECHNOLOGY<sup>5</sup>

72. The closely-controlled Soviet scientific effort has focussed preponderantly on the building of a strong industrial base and the development of modern weapons. The USSR has placed great emphasis on science and technology and has concentrated manpower and facilities in an effort to achieve the high priority goals which it has established for military production and for the industrial base. As a consequence, the USSR's achievements in areas of critical military and industrial significance are comparable to, and in some cases exceed, those of the United States. Research in areas to which the Soviets assign low priorities tends to progress at a much slower rate.

73. Highest priority will continue to be accorded to military-industrial research and development, but the rapid expansion of Soviet scientific resources will now permit greater flexibility. Greater individual initiative will probably be encouraged within assigned tasks of research, basic research in new fields undertaken, and somewhat more scientific and technical effort allocated to the consumer sector of the economy. Better direction of agricultural research is likely. As part of the current reorganization of the Soviet economy, efforts are apparently being made to improve coordination of the Soviet scientific and technical effort, and industrial research and development will probably be brought into better balance with production requirements at the local as well as national levels. At the same time, ideological obstacles to scientific research and development (never of much consequence in major industrial or war-supporting fields) will probably continue to diminish in the fields previously affected. These factors, together with continued emphasis on increasing scientific resources, will contribute to further substantial gains in Soviet science and technology over the next five years.

<sup>5</sup>For details on Soviet scientific strengths, developments, and policy, see NIE 11-6-56, "Capabilities and Trends of Soviet Science and Technology," 9 October 1956.

#### Scientific Manpower, Training, and Facilities

74. The reservoir of scientifically and technically trained manpower available to the Soviet Union has increased tremendously in the postwar period. Of the estimated mid-1957 total of 1,810,000 living graduates of university-level scientific and technical curricula, over 1,060,000 have graduated since the end of World War II. The total number of graduates actually employed in all scientific and technical fields in the USSR now exceeds those so employed in the US (see Chart on following page). We estimate that the high graduation rates of recent years will continue during the period of this estimate. By 1962 the USSR will probably have about 40 percent more graduates engaged in scientific and technical work than the US. In the particular fields of physical sciences and engineering, the number of Soviet scientists engaged in research and teaching is substantially smaller than in the US. However, Soviet emphasis on research in military and basic industrial fields probably results in a near numerical equality between the two countries in scientific manpower devoted to these critical activities.

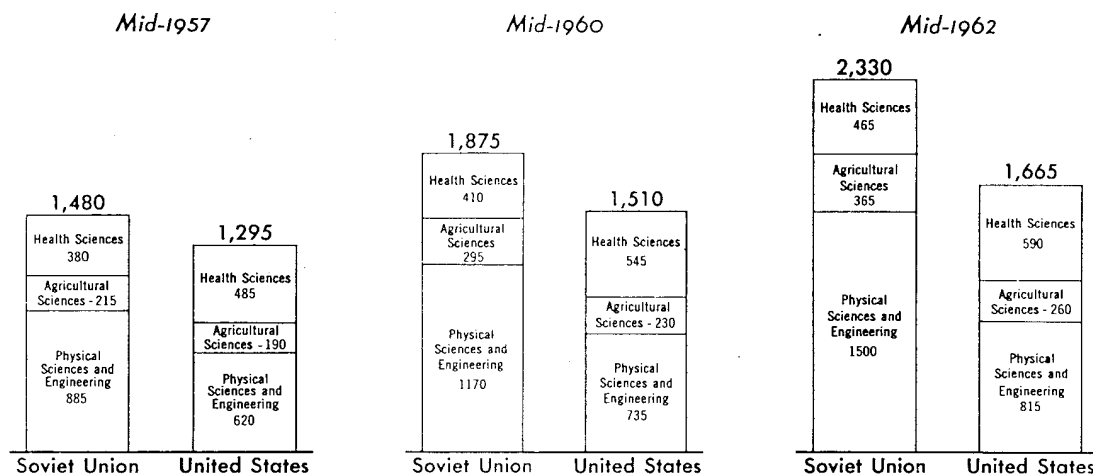
75. In the postwar period the quality of Soviet scientific training has approached, and in some cases surpassed, US levels. Engineering training in the USSR, while not as broad as that given an engineer in the West, is good within the particular field of specialization. Some deficiencies continue in the practical and experimental aspects of training, particularly in some fields of biology and engineering, although efforts are being made to overcome them. The USSR is also not as well supplied with nonprofessional technicians, mechanics, and maintenance men as are the Western industrial countries, where broader sections of the population have acquired mechanical skills over a longer period. Considerable progress is being made in increasing the supply of such personnel, but shortages of skilled technicians will persist in the USSR as in other countries.

US AND USSR

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## COMPARISON OF MAJOR SCIENTIFIC GROUPS\*

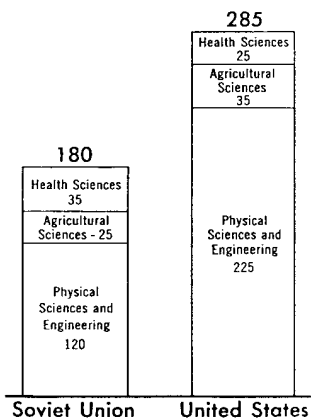
(Cumulative totals, in thousands)

GRADUATES OF HIGHER EDUCATIONAL INSTITUTIONS  
EMPLOYED IN SCIENTIFIC AND TECHNICAL FIELDS

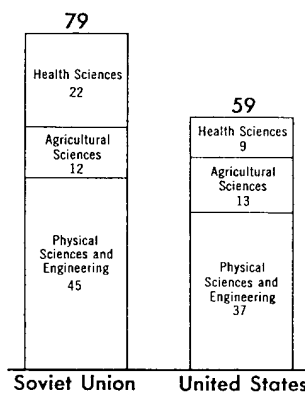
## "SCIENTIFIC WORKERS"

(Scientist and engineers engaged in research and teaching)

Mid-1957

SOVIET KANDIDATS AND  
AMERICAN Ph.D.'s  
IN SCIENTIFIC FIELDS\*\*

Mid-1957



\* Numerical estimates of Soviet scientific personnel are believed to be correct to within plus or minus 10 percent.

\*\* Requirements for the Soviet Kandidat degree roughly equal those for the US Ph.D. in the physical sciences and engineering and in certain of the agricultural and health sciences. However, in some biological fields which make up a part of the agricultural and health sciences, the Kandidat degree is more nearly equivalent to the US Master's degree.

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76. Soviet scientific facilities, in terms of financial support, organizational direction, and number and quality of laboratories, are generally adequate for the effective utilization of scientific talent. In a few fields Soviet facilities are superior to corresponding installations in the West. Notable in this regard are certain high energy particle accelerators and electronics research establishments. Although some shortages of complex research instruments are believed to exist, they probably do not significantly hamper research programs of major importance. For instance, though the US has a considerably larger number of high speed electronic computers than the USSR, the number of computer hours actually utilized for high priority research is probably nearly the same, since Soviet computers are not called upon to serve routine business and government functions.

77. During the next five years the Soviet Union will continue efforts to improve its capabilities in scientific instrumentation. More highly qualified engineers will probably be made available for the development and production of scientific equipment, especially in priority research areas, and an increasing amount of equipment will reflect original design concepts.

78. The Satellites continue to make significant contributions to Soviet technological development in certain fields, principally in optics, electrical measuring instruments, electronics, communication equipment, synthetic fibers, and pharmaceuticals. However, the importance of Satellite contributions is diminishing as Soviet capabilities in these fields improve.

79. The USSR is also progressively less dependent on Western research and development. Nevertheless, the Soviet leaders have adopted a policy of acknowledging foreign achievement and encouraging maximum use of foreign experience. The USSR is clearly anxious to take advantage of the possibilities in international scientific exchange, and to make Soviet scientists fully conversant with developments in the West. The All-Union Institute of Scientific and Technical Information of the Academy of Sciences publishes and

circulates extensive abstracts of foreign journals, and at least in high priority fields Soviet scientists have access to the full range of scientific research published throughout the world.

### Scientific Capabilities in Major Scientific Fields

80. Soviet scientists have made striking progress over the past few years in many areas of fundamental research. In mathematics, many fields of physics, and a few fields of chemistry, fundamental research appears to be comparable in quality to that performed in the US. In at least some fields, the best Soviet scientists are as gifted and competent as the best in the West, and have a similar potential for wholly new discoveries.

81. *Atomic Energy.*<sup>6</sup> There is substantial evidence that the USSR is continuing to expand steadily not only its military atomic energy activities but its program for nonmilitary uses. We estimate that the Soviet atomic energy program will continue to enjoy the very high priority that has been accorded to it in the past. The USSR is conducting extensive research in all major fields related to atomic energy, including controlled thermonuclear reactions.

82. The USSR is engaged in a comprehensive reactor development program which will permit it to keep generally abreast of world progress in this field. Although the USSR appears to have revised its ambitious mid-1960 nuclear power goal from 2,000-2,500 megawatts down to 1,400 megawatts of electric power, this reduced plan is still quite substantial, and is within Soviet capabilities if a high priority effort is devoted to it. The USSR will probably make further offers of technical aid, as well as of assistance in the construction of nuclear power stations, within the Bloc and to non-Bloc countries.

<sup>6</sup> For further details on Soviet atomic energy research and nonmilitary programs, see NIE 11-2-57, "The Soviet Atomic Energy Program," 7 May 1957 (Limited Distribution). Soviet atomic energy activities of direct military significance are discussed below in Chapter IV.

83. *Physical Sciences.* The present capabilities of Soviet scientists in the various fields of physics and mathematics are comparable to those of scientists in the leading nations of the West. Greatest capabilities are exhibited in nuclear physics, solid state physics, theoretical physics and high-speed digital computers. In the geophysical sciences, Soviet capabilities are also generally comparable to those of leading Western nations; during the next five years significant advances will probably be made in geomagnetism, permafrost research, geochemical prospecting, and polar geophysics. Recent progress has also been achieved in chemistry and metallurgy, notably in high-temperature alloys and ceramic cutting tools. Soviet capabilities in electronic component development will keep pace with those of the West and may lead the US in some respects.

84. *Medical Sciences.* Soviet medical practice lags behind that of most major Western countries, but appears to meet standards adequate for current civil and military requirements. Clinical practice is of a fair standard in large urban areas but is still backward in rural areas. Medical research, on the other hand, is pursued with vigor and may reach a level which approximates or even surpasses that of the US in certain fields relative to military and civilian defense, notably neurophysiology, radiobiology, aeromedicine, and hematology.

85. *Biological and Agricultural Sciences.* Soviet biological and agricultural research has hitherto been generally backward, but a trend

toward improvement in the quality of research is becoming evident as ideological restrictions on research diminish. Heavy emphasis will be placed on increasing per-acre crop yield and livestock productivity.

86. *Industrial Technology.* For the immediate future, we estimate that the over-all level of Soviet industrial technology will remain below that of the US. However, the most modern Soviet plants are already on a par with those in the US, and we expect the general level of heavy industrial technology to be improved. Striking progress has been made over the past few years in the theory and practice of automation. Additional semiautomatic and possibly fully automatic production lines will be established during the period of this estimate. There will probably be increased emphasis on engineering process research and on shortening the lead times necessary to bring developed items into production. However, research and technology in consumer goods fields will continue to lag far behind that in the US.

87. *Military Technology.*<sup>1</sup> The USSR has the capability to develop weapons and military equipment generally equal to those of any other nation. Despite the increasing complexities of military equipment, the USSR will be capable of continuing the successful design and development of modern, integrated weapon systems.

<sup>1</sup> Specific Soviet capabilities in military fields are discussed below in Chapter IV.

## IV: TRENDS IN THE SOVIET MILITARY POSTURE

## SOVIET MILITARY THINKING AND POLICY

88. In the years since World War II, Soviet military thinking and the Soviet military establishment have been in a process of transition, dictated by rapid advances in military technology and by the fact that the USSR's chief potential enemy, the US, lies beyond the reach of traditional Soviet military power. This rethinking has been reflected in greater emphasis on air defense, submarines, nuclear weapons, long-range bombers, and guided missiles. Further evolution in Soviet military policy and force structure can be expected during the coming period under the impact of further rapid advances in technology, the growth in mutual capabilities for nuclear devastation, and other factors affecting the balance of military power.
89. The chief factor affecting Soviet military thinking and leading to changes in the Soviet military establishment has been a growing appreciation of the devastation inherent in all-out nuclear conflict, and of the threat to Soviet security and Soviet objectives posed by Western nuclear capabilities. This realization has led to strenuous Soviet efforts to develop both adequate air defenses and offensive nuclear capabilities. These efforts, as well as various declarations of Soviet political and military leaders, clearly indicate that the chief military contingency against which the USSR feels it must guard is that of general war involving all-out use of nuclear weapons. The USSR almost certainly believes that the West's current military posture and strategic doctrine are such as to compel the West, if general war occurred, to fight it primarily by nuclear means.
90. Despite their strenuous efforts to develop nuclear capabilities, the Soviets probably consider that present US capabilities to wage nuclear war remain greater than their own. They show acute awareness of the advantage accruing to the US from its deployment of nuclear striking forces on the periphery of the Bloc as well as within the continental US. We believe that, under these circumstances, the Soviet planners have concluded that at present the USSR, even if it launched a surprise attack, would receive unacceptable damage in a nuclear exchange with the US. Notwithstanding probable further improvements in the Soviet nuclear and delivery capabilities over the coming period, the USSR almost certainly will still not be confident that it can attack the US without receiving unacceptable damage in return. These estimates of Soviet military judgments underlie our basic estimate (see paras. 190 and 191, chapter VI) that the USSR will not deliberately initiate general war or undertake courses of action gravely risking general war during the period under review.
91. On the other hand, the Soviet civilian and military leaders probably regard their own growing nuclear capabilities, added to their already great conventional strength, as enforcing caution on the Western powers. They are probably confident that their own nuclear capabilities have already reached the point where the US and its allies will also be deterred, except under extreme provocation, from deliberately initiating general war or from reacting militarily to any local crisis in a manner which would gravely risk broadening such a conflict into general war.
92. We believe that the highest priority objective of Soviet military policy during the period of this estimate will be to maintain, and to develop further, such formidable nuclear capabilities as to continue to deter the US from resorting to all-out nuclear conflict on any provocation save the most extreme threat to national survival and to support continuation of an aggressive foreign policy. But the Soviets must recognize that the possibilities of miscalculation in crisis situations are such that general war might nevertheless occur, and that preparedness for it is therefore

essential. For this and other obvious reasons they aim eventually to achieve a clear military superiority over the US. Accordingly, the Soviet planners probably desire to achieve a nuclear attack capability sufficient, together with the USSR's air defenses, not only to deliver a devastating attack on the US, but also to neutralize a US nuclear attack on the USSR (i.e. to prevent unacceptable damage to the USSR).

93. Given foreseeable technological developments and maintenance of US armed strength, however, the Soviets may regard the capability to neutralize US nuclear attack capabilities as unattainable during the period of this estimate. On the other hand, they probably consider that although they cannot prevent, even with surprise attack, a crippling retaliatory blow, they can maintain such capabilities to damage the US as will deter the US from resorting to general war. To this end they must keep a strong long-range bomber striking capability, while they are working to acquire an additional nuclear delivery capability with advanced weapon systems, including long-range missiles. But the Soviet planners may nevertheless think the prospects for development of advanced weapons systems so promising that they can accept a temporary risk of maintaining their manned bomber force at something less than they would otherwise consider desirable.\*

94. In our view a major corollary aim of Soviet military policy, to which the maintenance of a strong deterrent posture is an essential concomitant, is to provide the Soviets with military superiority in situations which they may estimate can be dealt with short of all-out nuclear war. To the extent that such supe-

\*As estimated elsewhere in this NIE, the USSR must recognize that the possibilities of miscalculation in crisis situations are such that general war might occur, and that preparedness for it is therefore essential. The Assistant Chief of Staff, Intelligence, USAF, therefore believes that the Soviet leaders will not be likely to accept needlessly the risk of maintaining their long-range bomber capability at less than they otherwise would consider desirable, and he believes a conclusion should be added to the paragraph as follows: "However, we think it unlikely the Soviet leaders will take such a risk."

rior capabilities can be developed and maintained, they enhance Soviet ability to use the latent threat of military action as an instrument of political warfare.\*

95. An additional objective of Soviet military policy, which has assumed increased importance since the Hungarian revolt and Polish crisis, is to ensure essential Soviet control over the European satellites. Whatever plans the USSR might have had to withdraw forces from the Satellites prior to these developments, we believe that they must now contemplate an indefinite retention of Soviet forces in Eastern Europe.

96. In assessing the size and types of forces essential to meet the above requirements the Soviets have apparently concluded that they must keep a large and diversified force structure designed to meet a wide variety of contingencies. While they will place further stress on maintaining strong strategic nuclear attack capabilities and air defenses, the evidence indicates that they also are contin-

\*The Assistant Chief of Staff, Intelligence, Department of the Army, believes that paragraphs 92-94, unless balanced by other considerations, represent an overemphasis on one segment of Soviet strategic thinking which is not necessarily the most significant in the Soviet view.

In the Soviet view the objectives of any military action would have to include definite gains for the Soviet state. In view of the devastation which could result to both sides in an all-out nuclear exchange it is almost certain that they see no advantage to any one in initiating such an exchange. Rather, they probably judge that as the nuclear delivery capabilities of both sides increase, the range of issues over which either the Bloc or the West would launch all-out nuclear war decreases.

Consequently, since both sides are developing effective forces to deter all-out nuclear war, the Soviet leaders probably believe that their strong ground, naval, and tactical air forces would permit resort to local military action, with substantial prospects of success, in any area where the US and its allies could not rapidly react on a comparable scale or where the issues or circumstances were such that the US and its allies chose not to broaden the conflict. The real threat of Soviet military action therefore lies in the type of situation in which the Soviets estimate the West while opposing the Bloc would not risk the devastation of all-out nuclear war.



uing to modernize and strengthen their forces in other fields. In view of their growing appreciation of the devastation inherent in all-out nuclear conflict, they must regard the growth of nuclear capabilities on both sides as making each side increasingly reluctant to use such weapons, and logically would not wish to deprive themselves of other military capabilities. In our view their continued maintenance of strong ground, naval, and tactical air forces, indicates their belief that such forces, equipped with conventional and nuclear weapons, would be of great importance in both general war and limited conflicts.

97. Since an important technological breakthrough by either side could greatly affect the present balance of military power, the USSR will continue to devote the highest priority to weapons research and development. It will produce advanced weapon systems in operational quantities using such weapons to enlarge its existing military capabilities. We think it will not make early major alterations in its present force structure, although such factors as the increasing cost and complexity of new weapons and equipment, the competing demands of highly important nonmilitary programs, and the rapid obsolescence of various types of military equipment will probably dictate some alterations in the present balance of Soviet forces over the next five years.

98. *Likelihood of Force Reductions.* The USSR has publicized two reductions in military personnel strength: the first, a 640,000 cut, was announced in August 1955 and completion was claimed by the end of that year; the second, a 1.2 million cut, was announced in May 1956, with completion promised by May 1957. In our last estimate in this series, we concluded that total Soviet military manpower had probably increased during the Korean War period and that the first of the two Soviet claims may have related to a post-Korean reduction in force levels. Further evidence and analysis supports the belief that substantial changes in numerical strength have in fact occurred. The pattern of conscript call-ups and terms of service over the past decade suggests that military manpower may have increased to a peak of around six million in the early 1950's, and has been re-

duced substantially during the past several years. Moreover, recent analysis of Soviet statistics reveals increases in civilian employment which point to the possibility of a sizable flow from the armed forces since 1953. Thus the USSR, in announcing force reductions, may have been taking propaganda credit for force reductions from peak Korean War levels which had been made in large part prior to the announcements.

99. Some reductions probably continued to take place after the May 1956 Soviet announcement, but evidence is lacking as to the extent of these cuts. The promised token withdrawals from East Germany were actually carried out with much publicity in the summer of 1956, and there were fragmentary indications of a selective weeding out of officers and men elsewhere in the Soviet forces. But in the fall of 1956 there were reports that demobilization had been halted; since then we have had no evidence of further cuts, and Soviet propaganda has failed to make the claims that we would have expected had the announced cuts been completed. Therefore, we do not believe that cuts of the size the USSR announced in May 1956 for completion by May 1957 were carried out during that period. The disturbances in East Europe in autumn 1956, and further uncertainties created by the Middle East situation, may have led to Soviet suspension of such demobilization plans.

100. In any event, with respect to current Soviet military personnel strength, there is substantial agreement between our estimates made on the basis of unit order of battle and those made by analyzing conscription trends and population and labor statistics. On the basis of estimated order of battle, total Soviet active military personnel as of mid-1957 would be about 4,275,000, including about 2,650,000 in the ground forces, 825,000 in the air forces (including 110,000 Naval Aviation personnel), 725,000 in the navy, and about 75,000 personnel whose subordination is unknown.<sup>10</sup>

<sup>10</sup> In addition, there are an estimated 400,000 personnel in Soviet security forces. For detailed personnel strength estimates of Soviet and other Bloc military forces in mid-1957, see Annex, Table 1.

101. Because of the shortage of manpower in the Soviet economy and for various other reasons noted elsewhere in this estimate (Section VI, paras. 213, 215), the Soviet leaders probably believe that some further reductions in the numerical strength of their armed forces would be desirable. The relatively great size of Soviet forces-in-being may persuade the Soviet leaders that some reductions can be made without undue prejudice to the security or other interests of the USSR. Whether Soviet forces are in fact reduced, however, will depend to a great extent on the degree of danger and tension that the Soviet leaders feel in the international situation. It is possible that they will conduct their policy in such a way as significantly to increase international tensions, and thus to require armed forces as large, or even larger, than they have at the present day. We think it more likely that there will be some further reduction in Soviet force strengths during the period of this estimate, but we do not believe that the reduction will be substantial.

102. *Soviet Military Policy Toward the Satellites.* The Soviet leaders regard the Satellite area in general as vital to the military posture of the USSR, both as an extension of the defense perimeter of the homeland and as a base for Bloc offensive power. Even prior to the Polish and Hungarian uprisings the USSR probably had some reservations concerning the reliability of Satellite military forces, but we believe the events of last fall have reinforced Soviet determination to maintain substantial Soviet forces in and near the Satellites for an indefinite period. However, additional token withdrawals from East Germany may occur, and there may be some reduction in present Soviet strength in Hungary as the local situation stabilizes.

103. The events of last autumn probably re-emphasized to Soviet leaders the desirability of using the Warsaw Pact, an ostensibly voluntary mutual defense arrangement, as the basis for Soviet-Satellite military relations. Under this pact the USSR will continue its efforts to develop and maintain reliable and effective Satellite forces, but it will probably not permit any significant expansion of these forces.

## TRENDS IN SPECIALIZED SCIENTIFIC AND TECHNICAL CAPABILITIES

### Nuclear Weapons<sup>11</sup>

104. The USSR is making a concerted effort to perfect a variety of improved nuclear weapons, particularly those employing thermonuclear principles. Of the 42 Soviet nuclear tests detected between August 1949 and 10 October 1957, a total of 23 have been detected since January 1956, [

] We estimate that the Soviet weapons stockpile in 1957 could include a variety of nuclear weapons, with yields ranging from about 4 kilotons (KT) up into the megaton range.

105. In general, we anticipate that the USSR will be capable of producing improved nuclear weapons of the yields and characteristics needed to support its military requirements. By 1958-59, the most powerful Soviet bombs could probably yield up to 20 MT, but the maximum yields of missile warheads will continue to be considerably less than this. In addition to thermonuclear weapons, a wide variety of fission weapons, including very small, low-yield weapons, will become available. We believe that development of advanced weapons will require additional testing. The absence of such tests, however, would not preclude Soviet stockpiling of very high yield (above 8 MT) weapons on an emergency or provisional basis.

106. Although we estimate a substantial Soviet program for the expansion of fissionable material production, the availability of such materials will continue throughout the period of this estimate to be a limiting factor in determining the size of many military and non-military programs. Our estimate of the cumulative quantities of nuclear materials available for weapon uses is given below. The amounts have been calculated by deducting

<sup>11</sup>For detailed estimates of Soviet capabilities in nuclear weapons design and dates of availability, see NIE 11-2-57, *The Soviet Atomic Energy Program*, 7 May 1957 (Limited Distribution).

from estimated production those quantities of nuclear materials estimated to meet pre-1957 nuclear test expenditures, and to meet the inventory and fuel requirements of research and power reactors. No deductions have been made for production reactor expenditures, future nuclear tests, propulsion applications, or materials tied up in weapons manufacturing pipelines. If a major nuclear propulsion program were undertaken, this would require substantial allocations of nuclear material.<sup>12</sup>

	mid-1957	mid-1960	mid-1962
Uranium-235	17,500 Kg.	56,000 Kg.	101,000 Kg.
Plutonium Equivalent <sup>13</sup>	5,500 Kg.	12,400 Kg.	18,300 Kg.

The uncertainty in our estimate of cumulative U-235 availability through mid-1957 is large but probably does not exceed one-half to twice the value shown. The uncertainty in our estimate of cumulative availability of Plutonium equivalent through mid-1957 probably does not exceed plus or minus 50 percent of the value shown. These uncertainties increase rapidly as the estimate is extended into the future, and no meaningful numerical range of uncertainty can be given beyond mid-1957.

107. While there is considerable evidence to indicate the types of weapons the USSR is probably stockpiling and the delivery systems it contemplates, there is no direct evidence to support a quantitative estimate of the Soviet weapons stockpile by type.

<sup>12</sup> The Director of Naval Intelligence does not concur in the quantities of fissionable materials listed herein as available for weapons uses, nor in the estimated production of fissionable materials upon which these figures are based. He believes that the quantities of material which will be available for weapons use will not exceed the lower limit of uncertainty indicated for the estimate.

<sup>13</sup> The term "Plutonium equivalent" is used because our method of estimation does not permit us to distinguish between Plutonium, Uranium-233, tritium, or any other reactor-produced isotopes.

### Guided Missiles<sup>14</sup>

108. The USSR is capable of developing and producing during the period of this estimate advanced types of guided missile systems in all categories, and its research and development program in the guided missile field will continue to enjoy a very high priority. The USSR is also capable of developing various sizes of nuclear, high explosive (HE), and chemical (CW) warheads for its guided missiles, although the availability of fissionable materials will limit the extent of nuclear warhead production during the period of this estimate.

109. *Surface-to-Air Missiles:* An extensive system of surface-to-air guided missile installations is now operational in the Moscow area, and similar installations appear to be under construction at Leningrad. The Moscow system, which could include a limited number of nuclear warheads, can probably direct a very high rate of fire against multiple targets at altitudes up to about 60,000 feet, although it is probably vulnerable to very low altitude attack. During 1958-61, surface-to-air systems with increased range and altitude capabilities for static defense of target complexes, and with low and high altitude capabilities for defense of static targets, field forces, and naval vessels, could probably become operational. The maximum altitude capabilities of Soviet surface-to-air missile systems will probably keep pace with those of operational Western bombers and cruise-type missiles. On the other hand, we believe the USSR will not be able to place in operation a weapon system capable of successfully intercepting ballistic missiles by mid-1962.

110. *Surface-to-Surface Missiles:* The probable Soviet firing of two ICBM test vehicles in the summer of 1957 and the successful Soviet launching of earth satellites attest both to the high capabilities of the USSR in long-range ballistic missile development and

<sup>14</sup> For a more extended discussion of Soviet guided missiles, see NIE 11-5-57, *Soviet Capabilities and Probable Programs in the Guided Missile Field*, 12 March 1957; see also appropriate sections of NIE 11-57, *Sino-Soviet Bloc Air Defense Capabilities through mid-1962*, 16 July 1957.

to the extremely high priority this program enjoys. In the light of this and other new evidence, we have re-examined our previous estimate of Soviet ICBM development, and have tentatively advanced from 1960-61 to 1959 the probable date when a few (say, ten) prototype missiles of 5,500 nautical miles (n.m.) range could first be available for operational use. This estimate is predicated upon: (a) a top priority flight test program over a period of about two years from the first firing of a test missile this summer; (b) a maximum range of 5,500 n.m. and a CEP of about 5 n.m.; and (c) the equipping of the first operational unit with prototype rather than series-produced ICBMs. Early success of any phase of the test program, or relaxed accuracy and reliability requirements, could advance the date of availability.<sup>13</sup>

111. We have likewise re-evaluated the Soviet program for development of an IRBM. Recent evidence indicates that the USSR has probably elected to develop a 1,000 n.m. ballistic missile which is essentially a modified 700 n.m. missile with a lighter warhead. With such a program, the USSR could take advantage of existing development, production, and operational capabilities and could probably achieve a first operational capability with a 1,000 n.m. missile in 1958. Most of the present targets on the Eurasian periphery which we believe the USSR would wish to attack would be within range of this missile fired from within the Bloc. While firm evidence indicated an early Soviet interest in IRBMs with ranges up to 1,600 n.m., there are no current indications of development of ballistic missiles of ranges beyond about 1,000 n.m., save for the ICBM.

112. As previously estimated on the basis of considerable evidence, the USSR has developed and could now have available for operational employment at least four shorter-range ballistic missiles, with maximum ranges of about 75 n.m., 175-200 n.m., 350 n.m., and 700 n.m. We believe the Soviet surface-to-surface pro-

gram also includes submarine-launched missiles. We estimate that for this purpose the USSR could now have supersonic cruise-type missiles capable of maximum ranges of about 500 n.m., and that in 1962 a supersonic cruise-type missile of up to 1,000 n.m. range could probably become available. To an extent varying with the missile guidance system employed, their accuracy would depend on the ability of the launching or guidance submarine to fix its own position.

113. *Other Missile Categories:* For improving the effectiveness of its interceptors, the USSR could now have available short-range air-to-air missiles equipped with HE warheads, probably including one suitable for all-weather engagement at ranges up to 5 n.m. Soviet air-to-air capabilities will probably improve, and some large-caliber air-to-air rockets or guided missiles could be equipped with nuclear warheads during 1958-62. In the air-to-surface category, subsonic missiles capable of carrying nuclear warheads up to about 55 n.m. could probably now be available, primarily for use as anti-ship weapons, but also suitable for use against isolated and well-defined radar targets on land. In 1961, a 100 n.m. supersonic air-to-surface missile could probably be available for employment by heavy bombers. It will probably also be within Soviet capabilities to develop specialized decoys and anti-radar missiles to aid in penetrating enemy defenses.

114. *Earth Satellite.* In addition to their obvious psychological purpose, the artificial earth satellites launched by the USSR are intended to acquire data of scientific and military value. While it is too soon to say how much data is being acquired, the satellites launched to date are known to be providing new information on ionospheric effects and refractions at certain radio frequencies, and probably also on the effects of weightless flight and outer space radiation on equipment and living organisms. They are also providing data on pressure, temperature, and meteoric densities at extreme altitudes. Future Soviet earth satellites, which may be launched at any time, will provide additional scientific data contributing to both military and non-military Soviet projects. A reconnaissance

<sup>13</sup> The estimate made in this paragraph must be considered tentative, pending completion of SNIE 11-10-57: The Soviet ICBM Program, now in process.

satellite, previously estimated for 1963-65, may be available considerably earlier. Space vehicles and space platforms are almost certainly included in Soviet planning.

115. *Chemical and Biological Warfare.* Current Soviet military doctrine recognizes the potentialities of CW and BW as adjuncts to nuclear and other weapons, and Soviet forces are thoroughly trained in the offensive use of CW. A stockpile of CW agents is believed to have been maintained at least at World War II levels, and may have been increased. It probably consists primarily of such nerve gases as GA (Tabun) and GB (Sarin), as well as some standard agents such as mustard. One of the "V" series of nerve agents, far more persistent and toxic than the "G" series, may have been in production in the USSR since 1956; effective use would depend on Soviet solution of the problem of generating a proper aerosol for its dispersal.

116. Accumulated evidence also indicates an active Soviet BW research and development program encompassing anti-personnel, anti-livestock, and possibly anti-crop agents. Although relatively little is known about the scope of the program, particularly its offensive aspects, the USSR has probably had a capability for small-scale, clandestine BW operations for at least several years. We have no evidence of large-scale production of BW agents and munitions, but the USSR has the facilities, personnel, and materials needed for such production.

117. In the field of defense against BW and CW, Soviet capabilities are at least comparable to those of the major Western nations, and in the case of CW may be superior. Soviet troops are well-equipped with CW defense items, and the current issue gas mask appears to afford adequate protection against inhalation of known agents. Extensive programs are under way to indoctrinate both military personnel and civilians in defensive techniques.

118. *Electromagnetic Warfare.* Soviet offensive and defensive programs in this field are likely to be pressed forward during 1958-62. We believe that at present the USSR is capable of jamming and seriously disrupting Western long-range radio communications, and that

it also has an appreciable capability for jamming Western bombing and navigational radars. Its jamming capabilities now extend up to frequencies of at least 10,000 mc/s; by 1960 some Soviet jamming equipment could operate at frequencies of 30,000 mc/s or higher. The USSR could also develop devices to enable missiles to home on electronic emissions. Soviet forces are now training in the use of CHAFF, research is underway on anti-radar coating materials, and we believe the USSR is developing active airborne jamming equipment. Conversely, known types of Soviet radio and radar equipment are vulnerable to electronic countermeasures, particularly Soviet blind-bombing and air defense radars, all of which operate in a few narrow frequency bands. The USSR is capable of increasing its spread of frequencies and of developing anti-jamming devices, but through 1962 Soviet defensive electronic systems will probably still be subject to disruption by properly employed techniques.

#### TRENDS IN SOVIET MILITARY STRENGTHS

##### Soviet Ground Forces

119. There has been an extensive program over the past several years to reorganize and modernize the Soviet ground forces to meet the requirements of modern warfare, both nuclear and non-nuclear. More advanced designs of practically all types of equipment in Soviet line divisions have appeared. The fire power of individual units has been increased markedly, additional vehicles (including amphibious vehicles) have been provided, and communications equipment has been augmented. Our evidence on these developments relates primarily to the Group of Soviet Forces, Germany, but we believe they are proceeding throughout the Soviet field forces.

120. All these changes are in line with revised Soviet tactical doctrine, which emphasizes the need to supplement standard ground force tactics and training with those designed to meet the conditions of nuclear warfare. This doctrine stresses firepower, mobility and maneuverability, greater initiative, deeper objectives, intensified reconnaissance, and the protection of individuals and units against

the effects of atomic and chemical weapons. It also envisages the use of tactical nuclear weapons and guided missiles in support of Soviet field force operations. Thus far, however, both the revised tactical doctrine and the reorganization of ground force elements reflect evolutionary changes without basic alteration in the field force structure.

121. The order of battle of Soviet Army ground forces is still estimated at about 175 line divisions plus supporting units.<sup>16</sup> Present evidence suggests that the actual strengths of comparable units vary widely according to their locations. First category units, with the best equipment and highest manning levels, are believed to be those near the borders of the USSR, with second category units in occupied areas abroad and lowest category units in the interior of the USSR. The average is probably about 70 percent of authorized wartime strength; in border areas actual strength probably exceeds 70 percent, in East Germany and other occupied areas it is 70 percent or slightly less, and in remote interior districts it may be as low as 30 percent. All units probably have a high proportion of authorized officer strength, however, and full equipment is believed to be kept locally available. These peacetime manning practices, together with standard conscription and stockpiling programs, would probably enable all Soviet line divisions to be brought to full strength by M+10 and permit the activation of about 125 additional line divisions by M+30.

122. During 1958-62 further improvements in the firepower and mobility of Soviet ground forces are likely, and there may be further gradual alterations in organization to permit greater dispersion and flexibility of control. Nuclear weapons and guided missiles — with both nuclear and non-nuclear warheads — will probably become available in significant quantities during the period. The USSR will probably employ those weapons for relatively long-range support of tactical operations, however, and conventional field artillery and unguided

<sup>16</sup>For detailed estimates of the strength of Soviet and other Bloc ground forces in line divisions as of mid-1957, see Annex, Table 2.

rockets will continue to provide the major direct fire support for units in close combat. Anti-aircraft artillery, on the other hand, will tend to be replaced by guided missiles, first in static defenses within the USSR and later in mobile field force units.

123. *Airborne Forces.* Increasing attention is now being paid to the development of Soviet airborne and air transportable forces, as indicated by: the rapid augmentation of transport capabilities, especially in assault-type helicopters and converted BULL medium bombers; the appearance in 1956 of the CAMP, a twin-turboprop assault transport; the development of a new light-weight self-propelled anti-tank gun for airborne use; and further improvements in personnel and cargo parachutes. The USSR has sizable airborne forces in being, estimated at 10 divisions and a total strength of about 100,000 men. Soviet Aviation of Airborne Troops now comprises approximately 500 twin-engine transports, 180 BULL transports, 140 large helicopters, and 220 large gliders. This strength could be augmented substantially by other military and civil transports.

124. Soviet airlift capabilities will increase considerably during 1958-62, primarily as additional helicopters and transports are introduced. The largest operational Soviet helicopter can now carry 8,800 lbs. (40 men with combat equipment), and by 1961 the USSR could probably have in operation helicopters with payloads up to 30,000 lbs. The BULL will probably be employed as an interim medium transport until late in the period, when it will probably have been completely replaced by the CAMP and possibly other advanced types. Better auxiliary transport will also become available as improved aircraft are introduced into the civil air fleet. New turboprop medium and heavy transports will probably become operational in 1958, and a new four-turbojet transport in 1959.<sup>17</sup>

#### Soviet Air Forces

125. We estimate the over-all actual strength of Soviet military air units in mid-1957 at

<sup>17</sup>For estimated performance characteristics of Soviet transport aircraft, see Annex, Table 8.

about 18,000 aircraft.<sup>18</sup> Further modernization of all components of the Soviet air forces will occur during 1958-62, and will include increases in the proportion of jet all-weather fighters, in the numbers of jet medium and heavy bombers, and the emergence of a substantial inflight refueling capability. The present combat effectiveness of Soviet military aviation is, on the whole, below that of the US. However, the introduction of new aircraft types and the relatively low turnover of personnel will almost certainly raise combat proficiency to a high level by 1962. In the long run, guided missiles will replace manned aircraft within many of the missions performed by the latter, but we doubt that this process will go so far during the period of this estimate as to lead to a major reduction in the numbers of Soviet military aircraft.

126. Soviet air capabilities will be augmented by improvements in a wide variety of ground and airborne supporting equipment, especially in the electronics field. There will almost certainly be advances in the performance characteristics of early warning, ground-controlled intercept and airborne intercept radars. The accuracy of navigational and bombing radars will probably be improved. There will probably be significant increases in the quantity and quality of ECM equipment and of ground and airborne communications equipment, including modern high-speed data-handling equipment for air defense. Continued expansion of the network of modern, well-equipped air facilities is also likely.<sup>19</sup>

127. We estimate the mid-1957 actual strength of Soviet fighter units at approximately 10,000 jet fighters, of which over 3,700 are in Soviet Fighter Aviation of Air Defense with air defense as their sole mission, while the remainder are in tactical and naval units with air defense as one of their missions. At

present about 1,300 of these aircraft have at least limited all-weather capabilities; by 1962 all-weather fighters may comprise about 60 percent of total Soviet fighter strength. Future numerical strength will probably not be increased and, primarily because of the influence of guided missile systems, a cutback in the number of Soviet manned interceptors will probably begin late in the period. Other factors which might contribute to a Soviet decision to decrease its numerical strength in manned interceptors include probable increases in the destructive power of individual interceptors, and increased demands on industrial capacity resulting from the advent of more complex fighters.

128. Although the subsonic FRESCO day fighter is now the principal equipment of Soviet fighter forces, the supersonic FARMER day fighter and the all-weather FLASHLIGHT are rapidly being phased into operational units. We estimate that during 1958-62, the USSR will probably introduce new day and all-weather fighter types with considerably improved altitude and speed characteristics though at the expense of combat radius; the 1962 Soviet all-weather fighter will probably be capable of operating at altitudes up to 67,000 feet, and of climbing to 40,000 feet in less than two minutes.<sup>20</sup>

129. Tactical Aviation includes approximately 4,600 jet fighter aircraft and 2,400 jet light bombers. The latter are primarily the obsolescent BEAGLE, with combat radius of approximately 750 n.m. In 1958, improved jet light bombers will probably be introduced into service, including the USSR's first bombers with supersonic "dash" capabilities.<sup>21</sup> Ground attack regiments, formerly equipped with piston aircraft, have been re-equipped with jet

<sup>18</sup> For detailed estimates of the strength of Soviet and other Bloc air forces during the period of this estimate, see Annex, Tables 3-5.

<sup>19</sup> For further information, see appropriate sections of SNIE 11-6-57, Soviet Gross Capabilities for Attack on the Continental US in mid-1960, 15 January 1957 (Limited Distribution), and NIE 11-57, Sino-Soviet Bloc Air Defense Capabilities through mid-1962, 16 July 1957.

<sup>20</sup> For estimated performance characteristics and dates of operational availability of Soviet fighters, see NIE 11-57, Sino-Soviet Bloc Air Defense Capabilities through mid-1962, 16 July 1957, Annex B, Tables 1 and 2. However, we now believe it unlikely that the FLASHLIGHT "C," which is included in these tables, will be placed in operational service.

<sup>21</sup> For estimated performance and dates of operational availability of Soviet light bombers, see Annex, Table 7.

fighters, and there is continuing evidence of the employment of jet fighter regiments of Tactical Aviation for both ground support and air defense missions.

130. *Long Range Aviation.* The capabilities of Soviet Long Range Aviation have continued to increase during the past year. Its estimated strength in bomber aircraft has grown from about 1,300 to some 1,500. The number of bomber regiments has also increased, although at a somewhat slower rate than during the preceding year. The trend in training activities during the year is believed to have been toward larger-scale operations and longer-range flights out of home base areas, including flights to potential forward staging bases. Inflight refueling has been under development for both the BISON jet heavy bomber and the BADGER jet medium bomber, apparently using convertible tanker-bomber versions of these aircraft, and is at least in limited use by BISONs assigned to operational units. Finally, there is evidence that the USSR has established nuclear weapons storage facilities in the vicinity of Long Range Aviation bases.

131. Recent evidence indicates that Soviet production of BADGERs, and the number in operational units, are considerably in excess of our previous expectations. We now estimate that there were about 850 BADGERs in Long Range Aviation units as of mid-1957, and on the basis of current evidence we believe BADGER strength will continue to increase during the next year or two. At the same time, the USSR apparently continues to employ the BULL piston medium bomber for training, reconnaissance, bombing, and other purposes, and it is being phased out of Long Range Aviation at a slower rate than formerly estimated. We do not now expect BULLs to be entirely phased out until about 1960. Thereafter, there will probably be some decline in jet medium bomber strength in Long Range Aviation as a result of the increased availability of heavy bombers, the assignment of more medium bombers to naval and probably to tactical aviation, and the advent of significantly advanced delivery systems, including longer range air-to-surface and surface-to-surface guided missiles. The BADGER

will remain the primary medium bomber through 1962, although by mid-1961 a new medium bomber with supersonic "dash" capabilities may be introduced.<sup>22</sup>

132. In mid-1956, the USSR apparently settled on an improved production model of the BISON jet heavy bomber, with a new bombing-navigation system as well as provision for inflight refueling. Considering the somewhat better performance characteristics of the BISON, its greater development potential, and the development of an inflight refueling capability, the USSR may have decided to place greater emphasis on the BISON than on the BEAR. We therefore believe that the BISON will probably comprise the greater proportion of Soviet strength in heavy bombers in the later years of this period. A BISON with additional improvement in performance could probably be operational in 1959.

133. No positive evidence of Soviet research specifically directed toward nuclear propelled aircraft has been obtained. However, we estimate that:

a. The Soviet aircraft nuclear propulsion program is probably now engaged in development and testing of reactor components and sub systems.

b. A reactor system suitable for nuclear propulsion of subsonic aircraft could probably be available to the Soviets in 1962. It is possible that the USSR could for propaganda purposes fly an experimental aircraft powered in part by nuclear power at an earlier date.

134. To employ its long-range bomber force most advantageously, especially for intercontinental operations, the USSR would require a substantial inflight refueling capability. Refueling is particularly desirable for jet heavy bombers; for example, one refueling by a compatible tanker could approximately double the area of the continental US that could be reached by the BISON on a two-way mission from bases in the Chukotski area. BADGER coverage of US targets on one-way

<sup>22</sup>For estimated performance characteristics of Soviet long-range bombers, together with estimated dates of operational availability, see Annex, Table 6.



missions could also be increased by refueling. Refueling for the BEAR, while less essential than for the jet bombers, could increase its coverage of US targets from interior bases in the USSR. The USSR could employ turboprop heavy bombers in the tanker role. Aircraft configured specifically as tankers might also appear as the period advances. But on the basis of present evidence, we believe most of the tankers in Soviet Long Range Aviation during the period are likely to be convertible jet tanker-bombers, and that the bulk of these will probably be in the heavy category. The use of convertible tanker-bombers would permit greater flexibility in the employment of Long Range Aviation.

135. While evidence is inadequate to establish precisely the total size of the Soviet heavy bomber force, we have unusually good evidence on the one plant known to be producing BISON jet heavy bombers, which indicates a cumulative BISON production of 65 by mid-1957. Evidence on BEAR turboprop heavy bomber production is less extensive but indicates about 50 produced. On this basis, about 50 BISONs and 40 BEARs would have been available for operational units as of 1 July. If this is in fact the case, both BISON and BEAR production have fallen short of our estimate of last year.

136. Beyond this point of good evidence, however, there is an area of considerable uncertainty, particularly with regard to the BISON program. There is some evidence suggesting that as many as 90 BISONs may have been in operational units as of mid-1957. This would mean that the rate of BISON production has increased considerably since late 1956, and that an additional unknown aircraft plant has entered the BISON program, although we have almost no evidence to support this. It is similarly possible that BEAR production could have increased to an extent sufficient to provide about 60 in operational units, though we also lack good evidence. Indeed, there is evidence that additional plants estimated to be capable of producing heavy bombers are either continuing in the BADGER program or are preparing to produce transport or tanker aircraft.

137. If recent heavy bomber production has in fact been as low as the preponderance of evidence indicates, a partial explanation may lie in the field of technical problems. For example, it is possible that larger-scale production has been delayed pending the availability of higher-thrust engines or other developments expected to improve performance characteristics. But we would believe it more likely that Soviet planners have deliberately decided on a relatively modest heavy bomber program. In our view, such a Soviet decision would probably have been based on such judgments as the unlikelihood of general war during the next few years, the great expense of a large-scale heavy bomber program, the existence of a reliable jet medium bomber force with one-way intercontinental capabilities for interim use in emergency, and the expectation that new and improved intercontinental delivery systems will become available in a few years. On the other hand, if heavy bomber production has reached the higher levels mentioned in paragraph 136, it would indicate greater Soviet emphasis on the heavy bomber weapon system for intercontinental attack.

138. We have noted statements of Khrushchev stressing his view of the declining importance of manned fighter and bomber aircraft as contrasted with guided missiles. If these views had been contained solely in statements beamed to the outside world they could be dismissed as mere propaganda. It is hard, however, to interpret their inclusion in the Soviet press, with the resulting advertisement to the Russian people, unless they were intended to prepare the Russian people for some de-emphasis on the heavy bomber, or to cover up delays in production which might have been occasioned by difficulties experienced with the heavy bomber production. We cannot disregard, however, the possible conclusion that such statements are a deliberate effort to discredit and degrade the effectiveness of US retaliatory forces in the eyes of the Soviet people as well as the Western powers, and to exploit to the fullest extent the psychological advantage gained by recent Soviet missile/satellite advances.

139. In any event, we believe that the USSR will retain a strong long-range bomber force, including both medium and heavy bombers, at least until it has acquired a substantial nuclear delivery capability with more advanced weapon systems. However, it is difficult to predict with assurance how large the USSR will desire this force to be, particularly

in heavy bombers. The estimate of heavy bomber and tanker production, particularly for the period 1959-62, presents unusual difficulties. Future Soviet policy in these respects is still shrouded in doubt. In view of this uncertainty we have expressed below our estimates of Soviet long-range bomber/tanker strength in terms of ranges.

**SOVIET LONG RANGE AVIATION**  
(Estimated Strength in Operational Units) <sup>1</sup> \*\*

	See qualifications in paragraphs 135-139					
	Mid-1957	Mid-1958	Mid-1959	Mid-1960	Mid-1961	Mid-1962
HEAVY BOMBERS AND TANKERS	90- 150	150- 250	250- 450	400- 600	400- 600	400- 600
MEDIUM BOMBERS AND TANKERS						
Jet	850	1000-1050	1000-1100	1000-1100	950-1100	900-1000
Piston	550	350	150			
TOTALS	1500-1550	1500-1650	1400-1700	1400-1700	1350-1700	1300-1600

<sup>1</sup> The Assistant Chief of Staff, Intelligence, USAF, believes that the USSR would regard it as essential to have a more substantial intercontinental attack capability, providing for greater strategic flexibility and a much larger capability for re-attack — in short, a force which would provide the Soviets a greater chance of success in general war — while they are working to acquire an additional nuclear delivery capability with new weapon systems, including long-range missiles. He therefore believes that the strengths estimated above would all be bomber aircraft and that additional aircraft will be in operational units as tankers as follows:

	Mid-1957	Mid-1958	Mid-1959	Mid-1960	Mid-1961	Mid-1962
TANKERS	0	50-100	150-200	300-350	300-500	300-500

<sup>2</sup> The Deputy Director for Intelligence, The Joint Staff, and the Assistant Chief of Staff, Intelligence, Department of the Army, believe that the above projected future strength of the heavy bombers is contrary to the available evidence and foreseeable trends. Past estimates predicted an extensive production program of heavy bombers. This program has failed to develop as had been anticipated. Despite this the present estimate still implies an extensive program even though reduced below previous estimates. Even the lower figures of the table would require an increase of heavy bomber production which is not yet evident nor indicated by trends. In regard to total numerical strength, the upper range of figures implies a continued build-up of total strength which is in seeming contradiction to the indicated trends and to the judgment expressed in paragraph 135. The Deputy Director for Intelligence, The Joint Staff, and the Assistant Chief of Staff, Intelligence, Department of the Army, believe that the composition of the Soviet Long-Range Aviation will change with the introduction of higher performance bombers and possibly tanker aircraft. However, they believe that the total numerical strength will show no further increase but on the contrary will probably decrease, as indicated by the lower range of figures.

<sup>3</sup> The Director of Naval Intelligence believes that while the Soviets will certainly maintain a substantial heavy bomber force during the period of build-up of new intercontinental delivery systems, the heavy bombers/tankers available in operational units through mid-1958 will almost certainly approximate the lower range estimated in the above table.

### Soviet Naval Forces

140. During the postwar years Soviet naval forces have been greatly strengthened by an intensive building program, concentrated on light cruisers, destroyers, and submarines. The Soviet submarine force is by far the

largest in the world; over half its present strength consists of long-range craft, of which a significant and increasing proportion are of postwar design and construction. We estimate main Soviet naval strength in mid-1957 at 28 cruisers, 158 destroyers, 82 escort vessels,

and about 475 submarines. These totals include vessels of postwar design numbering 15 light cruisers, 92 fleet destroyers, 82 escort vessels, about 250 long-range submarines ("Z" and "W" classes) and about 40 medium-range submarines ("Q" class).<sup>23</sup>

141. Several important developments are likely in Soviet naval forces during 1958-62 as a result of changing weapon systems and new concepts of naval warfare. These will probably include the application of nuclear propulsion to naval vessels and use of both surface-to-surface and surface-to-air missiles. Although we have no firm evidence that the USSR has a nuclear-powered submarine, we believe that a program for its development has reached an advanced stage and we estimate that a reactor could be available for installation in 1957. Development of nuclear power plants for cruisers may follow the operational testing of a nuclear-powered icebreaker, which will probably occur in late 1958 or early 1959. We believe the USSR is presently capable of adapting nuclear warheads to torpedoes and depth charges.

142. Although the evidence pointing to the existence of Soviet guided missile submarines is not conclusive, we believe that the USSR will construct or convert submarines for surface-to-surface guided missile launching. Converted boats with topside missile stowage could already be in operation. Twenty submarines with topside missile stowage could be converted by the end of 1958, and by mid-1962 the USSR may have a total of about 30 guided missile submarines built on basically new designs, including boats with nuclear or other improved propulsion systems. Air defense missile systems for surface vessels, also capable of modification for shore bombardment purposes, could probably begin to be available in 1958; the unfinished hulls of six cruisers, which have been in Soviet shipyards since the cessation of the cruiser construction program several years ago, may be completed with guided missile armament.

<sup>23</sup>Detailed estimates of Soviet naval strength by major type and fleet area are given in Annex, Table 9.

143. The operating efficiency of Soviet naval forces, while still below that of the US Navy in some fields, is quite high and will continue to improve. The submarine force is undergoing intensified training, particularly in long-range operations. The principal weaknesses of the USSR as a naval power will continue to derive from the wide separation of its sea frontiers and its inability to control the sea routes between these areas, although improvements in inland waterways will increase its ability to interchange smaller vessels including submarines. The lack of adequate supply lines to its Northern and Far Eastern fleet areas and the land-locked position of its fleets in the Baltic and Black Seas are additional handicaps.

144. *Submarine Construction.* The Soviets will probably continue to place primary emphasis on submarines in their naval construction program. Since 1950 the Soviets have built about 300 submarines of postwar design. It is estimated that about 50 boats, "W" and "Q" class, will be built during 1957. We estimate that the total number of Soviet submarines of all types at the end of 1957 will be about 500. Throughout the period of the estimate we believe that the production of medium-range submarines will continue at about the present rate of 20 per year. The most recent evidence indicates that the program for production of "W" class conventional propulsion long-range submarines has been curtailed and may possibly be terminated this year. The Soviets will retain their capability for submarine production however, and we believe that after an interim period for changeover and development of prototypes, series construction of new long-range types will be resumed. This procedure would be parallel to that followed in the period 1949-51 in the changeover to the "W," "Z," and "Q" classes.

144a. We estimate that the USSR could now have a prototype nuclear-powered submarine, and that they may develop other improvements in propulsion design during the period. The Soviets also could produce a new type of submarine specifically designed for guided missile firing. Although they have adequate fissionable material and the over-all technological potential to produce larger numbers

of the new types, we believe that their program will be of the magnitude indicated unless they adopt less sophisticated designs for reasons of urgency. Subject to successful development of prototypes, we believe the Soviets could build, within the period, about 70 submarines with advanced weapon systems and improved propulsion, about 20 of which probably would be nuclear powered. Considering such factors as the decommissioning of obsolete boats and the development of new propulsion and weapon systems, we estimate that the total force will approximate 560 submarines by mid-1962.

145. *Naval Aviation.* Soviet Naval Aviation, comprising nearly 20 percent of total Soviet air strength, is now the second largest naval air force in the world. It is engaged in a concentrated training program which stresses coordinated action between its land-based aircraft and naval vessels (both surface and submarines), offensive action against enemy naval forces, and air defense. During this period, its strength will probably be increased and its modernization will continue. There is no evidence of intention to build aircraft carriers. Improved light bombers and all-weather fighters will probably be introduced. Long-range maritime reconnaissance and attack capabilities should be improved materially by increases in the number of jet and piston medium bombers allocated to Naval Aviation, and by the probable availability of air-to-surface guided missiles for attack against ships.

#### TRENDS IN SOVIET STRATEGY AND CAPABILITIES

146. For reasons which have been set forth elsewhere in this estimate we believe that the Soviet leaders wish to avoid an all-out nuclear exchange with the US. We have also pointed out that they almost certainly consider that any general war with the US would involve such an exchange. Consequently, we think that a key element of Soviet strategy in any war, whether with the US or with another nation, would be to attempt to keep the conflict limited in geographic scope. The Soviets would probably also prefer that nuclear weapons not be used, at least in a war commencing during the next year or two, since they probably think that their relative capabilities would be greater if the local war were fought with conventional weapons only. However, they probably consider that such a limitation would be impossible in many circumstances.

147. The number and variety of conceivable local wars is so great as to preclude any attempt to consider in this estimate the manner in which the Soviets might conduct them. We therefore confine ourselves to one aspect only of Soviet military strategy — that for the initial phase of general war. Even though the Soviets almost certainly desire to avoid such a war, and probably believe that their increasing nuclear capabilities powerfully deter the US from initiating it, they cannot ignore the possibility that general war may occur, and their planners must prepare for it.

## Soviet Strategy for the Initial Phase of General War

148. General war might grow out of local war, or directly out of a situation of intense international crisis, or it might (though we think this highly unlikely) be initiated in a period of comparative international calm. We believe that the Soviets recognize the advantages that would accrue to the side that struck the first blow in any all-out nuclear exchange. Therefore we believe that, whenever the Soviet leaders decided that the likelihood of general war had reached a certain point, they would themselves initiate it by strategic nuclear attacks.<sup>24</sup> The primary objective of such attacks would be to destroy or neutralize Western nuclear retaliatory capabilities, both in the continental US and overseas. Consistent with this assignment of first priority, the USSR would probably also seek to destroy other key US war-making capabilities. At

<sup>24</sup> The Assistant Chief of Staff, Intelligence, Department of the Army, believes that the USSR would avoid initiation of nuclear attacks and would seek to achieve its objectives by limited or local war if military action became necessary. The Soviet leaders would attempt to secure a limitation on the use of nuclear weapons prior to hostilities or to conduct hostilities under conditions which would limit or preclude the use of nuclear weapons.

It has been estimated in paras. 90 and 91 that the Soviets would not be confident that they would not receive unacceptable damage in an all-out nuclear exchange and that they would not deliberately initiate general war or undertake courses of action gravely risking general war. Moreover they are probably confident that the US would be similarly deterred except under extreme provocation.

Consistent with these judgments, the Soviet leaders, before making a decision to initiate nuclear attacks, would have to judge that their own deterrent capabilities were no longer effective and that their gains from an all-out nuclear attack would outweigh their losses. Paramount in such calculations would be survival of the state without which any gain would be meaningless.

It follows that the Soviet leaders would launch a nuclear attack against the US only if it offered the only hope of survival. Such a situation would occur only if the Soviet leaders came to believe that the US was irrevocably committed to launching an all-out nuclear attack against the USSR.

the same time, the USSR would make a maximum air defense effort against those Western nuclear striking forces which had escaped the initial Soviet attacks.

149. During any local war or intense international crisis it is virtually certain that the USSR (as well as the US) would prepare against the possibility of a greatly broadened conflict. These preparations would almost certainly include some redeployment of forces, mobilization of additional strength, civil defense precautions, and the like. However, the USSR would not want to push preparations so far as to convince the US that general war was imminent, lest this lead the US to strike the first all-out nuclear blow. This factor would constitute a limitation on the degree of Soviet preparation.

150. Another major limitation on Soviet preparations for general war would lie in the importance of achieving surprise. The necessity of attempting to neutralize Western nuclear retaliatory capabilities would make surprise in the initial nuclear attack a key element of Soviet strategy. While the USSR could not count upon achieving surprise against all Western nuclear capabilities, both within the US and elsewhere, it would almost certainly attempt to do so to the fullest extent possible. Thus, if the Soviets decided to begin the general war themselves, they would try to avoid compromising the element of surprise in their initial nuclear attack by observable preparations.

151. The foregoing considerations lead us to believe that the outbreak of general war would find the Soviets at a stage of military readiness beyond that of ordinary peace-time, but short of what their planners might believe best for the most rapid exertion of the total military effort. The actual state of readiness would depend on the development of the particular situation and on the Soviet calculation of the risks involved, and is impossible to predict in advance.

152. The Soviet leaders would probably launch an attack by ground and tactical air forces against Western Europe in order to prevent NATO mobilization, deployment, and counter-

attack. We believe that the USSR would plan to commit its ready forces to an offensive, especially in Western Germany, as soon as possible consistent with maintaining surprise for the initial assault against the US, US and allied nuclear bases overseas, and carrier task forces. Under favorable circumstances from the Soviet point of view, advances against NATO could be initiated concurrently, i.e., at the moment the West obtained warning of the Soviet strategic attack. The Soviets would probably also regard an attack to seize the Turkish Straits as of early high priority, but we believe that they would probably delay initiation of other major campaigns in the Middle and Far East until they could assess the results of the initial nuclear exchange.<sup>25</sup>

153. In the naval field, Soviet objectives would be: to prevent NATO carrier strikes and submarine-launched missile attacks on Bloc targets as part of the highest priority effort to neutralize US nuclear capabilities; subsequently, to interdict US reinforcement of overseas areas and to isolate the European theater.

<sup>25</sup> The Assistant Chief of Staff, Intelligence, Department of the Army, believes that any Soviet delay in initiating operations in the Middle and Far East would be minimal, and, if it occurred, would be occasioned primarily by a desire to place maximum logistic, combat, and manpower support behind operations in the NATO area. The Soviets possess adequate ground, naval, and tactical air forces to support simultaneous offensives on several fronts. The difficulty in shifting forces over long lines of communication (which presumably would be disrupted) to or from the Middle and Far East obviates the value of waiting to assess the results of a nuclear exchange. Under the assumed conditions of an all-out nuclear war, the Soviets would have to commit forces to an attack on Western retaliatory bases in the Middle and Far East. Hence, surprise would already have been minimized by preparations for and execution of such attacks. Immediate launching of combined arms operations into Western territory in these two areas would best exploit any surprise attained in initial long-range attacks. Moreover, such operations would make it difficult for the West to attack Bloc forces without also damaging Western civil populations and military forces. Conversely, any delay would provide the West with opportunities to build-up and re-attack the Bloc from these areas and would expose Bloc forces to Western retaliation in their homeland.

## Strategic Attack Capabilities

154. Soviet capabilities for strategic air attack will improve during the period of the estimate, as the Soviet stockpile of nuclear bombs and the number of high-performance long-range bombers grow. Present Soviet capabilities for attack on the continental US are restricted by the relatively small numbers of operational heavy bombers, the status of support facilities at Arctic bases, and the lack as yet of a substantial inflight refueling capability. We estimate, however, that during the period of this estimate, the capacity of Soviet forward base areas could be increased sufficiently to permit the staging of the entire estimated long-range bomber and tanker force. Moreover, the USSR will be capable of launching increasing numbers of heavy bombers from interior bases on two-way missions against the US.

155. Soviet planners would attempt to distribute their initial attacks in such a way as to achieve the optimum combination of surprise and weight of attack against all areas where US and Allied nuclear retaliatory capabilities were deployed. Nearly all available Soviet heavy bombers and many medium bombers would almost certainly be used against the continental US in an attempt to destroy or neutralize US retaliatory capabilities and other key elements of US war-making capabilities. Light bombers could be employed in initial attacks against overseas targets within their range.

156. The scale and timing of attack with bomber aircraft would also depend upon the availability and effectiveness of other delivery systems which will probably become available as the period progresses. At present the USSR is probably capable of employing small numbers of both bomber-launched air-to-surface missiles and submarine-launched surface-to-surface missiles against targets in the continental US. These weapons, together with ground-launched surface-to-surface missiles with ranges up to about 700 n.m., could also be employed in initial attacks on Western nuclear striking forces deployed on the periphery of the Bloc. As the period advances, the numbers and types of offensive missiles

available to Soviet forces will increase, and by mid-1962, Soviet guided missile capabilities for strategic attack could probably include more effective air-to-surface and submarine-launched missiles as well as IRBMs and ICBMs. Soviet planners would probably recognize that long-range ballistic missiles could impose maximum surprise and difficulty of interception, but also that during this period the accuracy and payload capacity of such missiles will be inferior to those of manned aircraft of comparable ranges. The large-scale use of missile-launching submarines in an initial attack would probably be precluded by the risk of premature disclosure of Soviet intent.

157. *Air Defense Capabilities.*<sup>20</sup> Although the effectiveness of Soviet defenses against nuclear attack would depend in large measure upon the success of an initial assault on Western nuclear delivery capabilities, the USSR's large air defense forces would be used to reduce the effectiveness of counterattack by Western forces. All Bloc forces with capabilities for air defense are integrated into an over-all active air defense system, which places primary emphasis on providing defense in depth for key administrative, industrial, and military centers within the USSR. Large passive defense organizations contribute to the Bloc's readiness for air defense, but we believe the general population is inadequately prepared against large-scale nuclear attack.

158. Principal current weaknesses of Bloc air defenses include the limited all-weather fighter capability, the low traffic-handling capabilities of communications and control components, the probable inadequacy of radar height-finding capabilities at high altitudes in certain areas, inadequate low altitude radar coverage, and the limited early warning time available in Bloc border areas. Bloc air defenses are most highly concentrated in the European USSR (east to a line roughly from the Kola Peninsula to the Caspian Sea), East Germany, Poland, Czechoslovakia, and the Maritime and Sakhalin areas of the

Soviet Far East, with some concentrations at specific locations elsewhere. The approaches to Moscow are by far the most heavily-defended area in the Bloc. Moscow's defenses are estimated to have a high capability to engage large-scale attack at altitudes up to 60,000 feet under all weather conditions, but they probably remain vulnerable to low altitude attack.

159. In general Bloc air defense capabilities would be as follows:

a. Against penetrations conducted during daylight and in clear weather, at altitudes between about 5,000 and 35,000 feet, the capabilities of the system would be greatest. Above 35,000 feet they would begin to diminish and above 45,000 feet would fall off markedly. At altitudes below 5,000 feet they would also be progressively reduced.

b. Against penetrations conducted at night and under poor visibility conditions, the capabilities of the system would be considerably reduced.

c. Against varied penetration tactics utilizing altitude stacking, diversionary maneuver, decoys and electronic countermeasures, the capabilities of the system would be diminished through disruption and saturation.

160. Over the next five years there will be significant improvements in the performance characteristics of most Soviet air defense equipment, including fighters, radars, and communications and control equipments. Air defense guided missile and unguided rocket capabilities will increase. These developments will considerably improve Bloc capabilities for all-weather defense against manned aircraft and cruise-type missiles. Nevertheless, at the end of the period, warning times available to Bloc targets in border areas will probably be deficient for fighter interceptors and marginal for surface-to-air missile defenses against the highest performance Western aircraft and cruise-type missiles. The Bloc will also continue to have difficulty in opposing very low altitude attack, air defense electronic systems will still be subject to disruption, and the USSR will probably not have in operation a weapon system capable of successfully intercepting ballistic missiles.

<sup>20</sup> For a detailed estimate on this subject, see NIE 11-57, Sino-Soviet Bloc Air Defense Capabilities through Mid-1962, 16 July 1957.

161. *Offensive Capabilities in Western Europe.* The 22 Soviet line divisions in East Germany, together with forces available in adjacent areas, could initiate an attack without reinforcement by major units. To augment the strength of the ground attack and to seize bridgeheads and other key objectives in NATO territory, the USSR could mount initial airborne operations from within Soviet territory. We estimate that in the European area, the Soviet airlift capacity is sufficient for troops and light equipment equivalent to 4-5 divisions (of 7,500 men each) in a one-day operation, and 8-9 divisions in a five-day operation, using half the civil and military transport aircraft normally in that area. Airlift operations on this scale would be limited to the radius of the smaller aircraft employed (i.e. about 550 n.m.).

162. Air support of tactical operations in Western Europe could be provided by about 1,600 jet light bombers stationed in Eastern Europe and Western USSR, as well as more than 4,500 tactical jet fighters stationed in these areas. However, the dual missions of tactical fighter units and the probable assignment of a considerable number to air defense would limit the availability of fighter aircraft for tactical support in the initial phase of the land campaign. Ballistic missiles and tactical nuclear weapons could now be available for the support of offensive operations, and their availability will almost certainly increase as the period advances.

163. *Offensive Capabilities in the Far East.* The USSR has about 30 line divisions in the Far East, together with nearly 3,500 aircraft and a sizable naval force. Stockpiles of supplies are probably sufficient, not only for the initiation of operations, but also for a considerable period of combat. Soviet forces in the Far East could, alone or in conjunction with Chinese Communist and North Korean forces, renew hostilities in Korea. They could probably launch an operation against Japan with an airborne force equivalent to 3 divisions in a one-day operation, and up to 5 divisions

in a five-day operation. An initial seaborne attack for the purpose of seizing port facilities could be undertaken by lightly-equipped troops landed from a heterogeneous group of ships and craft. Balanced forces equivalent to 5-6 divisions could be embarked in a follow-up operation and landed through the port facilities seized. The same technique could be employed in other areas of the Far East within range of land-based aircraft. Airborne and amphibious attacks on a small scale could also be launched against Alaska.

164. *Capabilities for Naval Warfare.* At the present time the capabilities of Soviet naval forces include: extensive submarine operations along most of the world's strategic sea lanes, employing conventional and possibly nuclear torpedoes and mines; attacks against US and Allied carrier task forces by submarines and shore-based naval aircraft, some of which could probably be equipped with air-to-surface missiles; operations in Bloc coastal areas by surface units and supporting shore-based aircraft, primarily to deny Western access and to protect the seaward flanks of ground campaigns; attacks against port facilities which would be used by US overseas reinforcements, employing shore-based aircraft, surface forces and submarines, some of which could probably employ surface-to-surface missiles. In short, we estimate that the USSR has an extensive capability to interfere seriously with US and Allied sea communications in the event of war.

165. Soviet capabilities for naval warfare will continue to increase, especially with the probable advent of nuclear-powered submarines, increases in over-all submarine strength, increasing capabilities to employ guided missiles and nuclear weapons for both offensive and defensive purposes, and increasing naval air reconnaissance and attack capabilities. Soviet naval forces will remain capable of lifting balanced forces of considerable strength, but the landing of heavy supporting elements of such forces will be contingent upon the seizure of adequate port facilities.



## V. TRENDS IN SOVIET RELATIONS WITH OTHER COMMUNIST STATES

166. The trend toward redefinition of intra-Bloc relationships consequent upon the death of Stalin has continued; it eventuated in the Polish crisis and the Hungarian revolt of late 1956. The special position of Yugoslavia, the emergence of a semi-independent Communist regime in Poland, and Communist China's growing power and doctrinal influence have, in effect, broken Moscow's onetime monopoly of Communist thought and power. The USSR's reluctant acceptance of these developments may signify a belief that greater toleration of local variations is the best way to preserve and strengthen the Bloc. However, alarmed by developments in Poland and Hungary, the USSR has moved to preserve the status quo in the orthodox Satellites and, in its repression of the Hungarian uprising, has demonstrated that it is determined to retain its hegemony in Eastern Europe.

167. The strong identity of interest among various Bloc regimes, their dependence upon Soviet aid and support, and the USSR's overwhelming military power will tend to maintain the essential solidarity of the Bloc over at least the next five years. But the underlying forces of change released by developments since Stalin's death will continue to operate, creating further instability in the states of Eastern Europe and in their relations with the USSR. The growth of Chinese Communist power and influence will also create problems as well as benefits for Moscow. Thus, additional changes in the pattern of intra-Bloc relationships are likely in the period ahead.

## Soviet Policy Toward the Satellites

168. The Soviet leaders are still confronted in Eastern Europe with a problem partly of their own creation. Moscow appears to have decided that the best way to encourage the long-run development of a sounder Soviet-Satellite relationship was to move away from the rigidity of Stalinist policy and, in its stead, to give limited play to national sentiments and local

peculiarities within the various Satellites. But this policy set in motion forces which tended to defeat the basic objective, the strengthening of the Bloc. The over-all liberalization of policy, together with the rapprochement with Tito and the Soviet XXth Party Congress, led to rising Satellite unrest, which threatened Soviet control.

169. Prior to the Hungarian revolution and the Polish coup, the Soviet leaders clearly underestimated the strength of forces within the Satellites seeking reform and change. Moscow apparently did not recognize or seriously attempt to cope with Satellite ferment evoked by the denunciation of Stalinism at the XXth Party Congress, until June, when the riots in Poznan (and the Polish regime's disagreement with Moscow over the causes of the riots) demonstrated the dangers of loosening the reins. But the damage had already been done in the two Satellites where nationalism was strongest and where party factionalism was most disruptive. Faced in the fall with a new and defiant regime in Poland and a popular revolt in Hungary, the USSR was forced into unwelcome decisions, adopting a policy of accommodation in the former and of repression in the latter.

170. The reason for the differing Soviet treatment of Poland and Hungary lay in the USSR's determination to preserve Communist regimes in Eastern Europe and to keep the states of that area in the Soviet Bloc. When Hungary suddenly declared its neutrality and its intention to leave the Warsaw Pact, the Soviet leaders felt compelled to intervene in the only way they could, through military action. In Poland the USSR was reassured by Gomulka's promises that Poland would remain in the Bloc. Thus, though disliking the Gomulka regime, the USSR concluded that it was more tolerable than the political risks involved in a military attempt to unseat it.

171. In the light of the Hungarian and Polish crises, the USSR now seems determined to go

slow in any further evolution of its relationships with the Satellites and, above all, to avoid if possible any repetition of the Hungarian or Polish experiences. It has shifted its emphasis toward attempts to combat the influence of those forces—principally nationalism, anti-Sovietism, and economic distress—which have been responsible for most of the Satellite ferment. Major reliance will still be placed on Satellite parties that will subject themselves—voluntarily, if possible—to Soviet ideology, Soviet directives concerning foreign and defense policies and Soviet leadership in general. In exchange for their fealty, the orthodox Satellite leaders can anticipate some Soviet economic aid, perhaps a measure of internal autonomy, occasional grants of recognition and prestige, and support for their own power positions and party policies.

172. Although the security of the Satellite system is thus uppermost in their minds—with measures to insure this security given first priority—the Soviet leaders do not seem to view a return to Stalinist severity and conformity as either necessary or desirable; they may even regard it as infeasible. There is unlikely to be any Soviet attempt to resume the previous degree of economic exploitation of the area. The Soviets appear willing to tolerate certain differences among the Satellites and to tailor their policy to meet varying Satellite requirements. They apparently still believe that if some concessions to autonomy are gradually and judiciously meted out, the Satellite peoples will eventually become reconciled to a close relationship with the USSR.

173. Czechoslovakia, economically the most successful and politically the most stable of the Satellites, appears to be Moscow's favorite, and may be intended to serve as a model for the others. Czech party leaders have been relatively successful in utilizing the threat of Soviet intervention as a means of suppressing popular ferment, while at the same time pointing to economic and political improvements since the death of Stalin. The arguments appear to have persuaded the population not to jeopardize its relatively favorable status by precipitate action.

174. Hungary presents the Soviet Union with numerous practical problems. To accomplish its primary goal of restoring Hungary as quickly as possible to orthodox Satellite status, Moscow has encouraged the Soviet-installed regime to combine severe political repression with limited economic bribery. There appear to be no suitable alternatives to this tactic. Both repression and bribery, however, are probably scheduled to diminish with time and accomplishment.

175. Soviet policy toward East Germany seems motivated primarily by the same considerations which underlie the USSR's rigid opposition to German reunification (see para. 231, Chapter VI). Aware of the unpopularity of the Communist regime in the GDR, the USSR is fearful that any relaxation of tight controls would stimulate the growth of pressures for reunification and promote increasing unrest or even a popular revolt in this highly sensitive area. Therefore, little liberalization has been attempted and Moscow has re-endorsed Ulbricht's repressive policies. The USSR probably feels that it has no alternative but to support the doctrinaire, Stalinist East German regime.

176. The reluctant Soviet acceptance of the "new" Poland now appears to be a long-range adjustment rather than a temporary accommodation. Tension in Soviet-Polish relations has abated since 1956, in large part because the Gomulka regime has restrained anti-Soviet and anti-Communist popular sentiments and has removed the immediate threat to the party's position. Concurrently, direct Soviet press attacks on Polish liberals have ceased and the strength of the pro-Soviet (Natolin) faction in the Polish party has diminished. The Soviet leaders retain a large arsenal of political, economic, and military weapons with which to exert pressure on the Gomulka regime or ultimately to destroy it, although they cannot be certain that pressures will always prove effective or that their use would not, in fact, boomerang.

177. Soviet military leaders almost certainly feel that the lines of communication through Poland to their 22 divisions in East Germany are insecure. Politically, Moscow must also

be concerned over the dangerous influence of the Polish experiment on the remainder of the Bloc. It has attempted to offset this by insisting on doctrinal conformity in the other Satellites. It has also sought to minimize Poland's unique status by granting paper concessions to the orthodox Satellites — such as status of forces agreements — which parallel some of the actual privileges obtained by Poland. Nevertheless, the continuation of the Gomulka regime will at a minimum prove embarrassing to Moscow and will probably aggravate the USSR's problems in the other Satellites.

178. Current Soviet policy toward Poland thus represents a calculated risk. The Soviet leaders still do not view the risk as sufficiently dangerous to justify military action. Moreover, Moscow probably hopes that the risk will diminish with time and that Poland will gradually prove more susceptible to Soviet pressures.

179. The ability of the Soviet Union successfully to handle the increasingly complex issues associated with its presence in Eastern Europe — at a time when its own internal policies and its relations with Communist China are also changing — is by no means certain. Popular dissatisfaction, party factionalism, intellectual ferment, and chronic economic difficulties in the Satellites all appear to be long-range problems and probably are now causing great concern in Moscow. Varying Chinese, Polish, and Yugoslav "roads to socialism," Soviet vacillations and purges, growing contacts with the West — all combined with the very real popular pressures from within — will probably continue to stimulate at least the desire for reform and change.

180. The current Soviet effort to minimize ferment, while simultaneously attempting to control the general movement for change through limited concessions, will probably prevent further explosions and national Communist "coups" but it does not appear to offer a lasting solution. Should essential Soviet control over the Satellites not be seriously threatened and should Poland remain in a state of semi-orthodoxy and dependence on the USSR, Moscow might in time be willing to

allow a greater development toward autonomy in other Satellites. It might consider that evolution toward a grouping of semi-independent Eastern European states (still closely allied to Moscow) would quiet Satellite unrest and thus serve long-term Soviet aims.

181. On the other hand, should essential Soviet control over the area appear to be seriously threatened, and should Poland move notably farther away from orthodoxy, pressures in Moscow for a reversion to a harsher policy would probably grow. In the event of another Satellite revolt or the attempt of any Satellite regime to secede from the socialist camp, the Soviet leaders would almost certainly decide to intervene militarily. This, in turn, would probably lead to the conclusion that the post-Stalin Satellite policies in general were a failure and that a return to more repressive policies offered the best means of coping with the problems in Eastern Europe.

#### Soviet Policy Toward Yugoslavia

182. Moscow's more flexible post-Stalin policies toward the Satellites may have been influenced by its apparently strong desire for a rapprochement with Yugoslavia. Efforts to accomplish this — most notable since the spring of 1955 — have not been uniformly successful; in fact, Soviet-Yugoslav relations descended to a name-calling stage during the winter of 1956-1957. But the present Soviet leaders apparently believe that the split with Yugoslavia was one of Stalin's major policy failures and that, on balance, the prospective gains from a rapprochement outweigh the possible dangers. Moscow's immediate objective is probably to re-establish close party, state and ideological relations with Belgrade and, concomitantly, to encourage a weakening of Yugoslavia's ties with the West; the ultimate objective is to bring Yugoslavia back into the Bloc. For its part, Yugoslavia almost certainly desires to avoid compromising its independence but wishes to maintain close relations with the Bloc. As long as Belgrade assesses Soviet policies favorably, we believe that Yugoslavia will maintain its rapprochement with the USSR and may gradually move toward a somewhat closer alignment within limits which would safeguard its independence.

### Sino-Soviet Relations

183. Communist China's stature in the Bloc has continued to grow. Peiping last fall backed the Soviet intervention in Hungary and generally supported the Soviet attempt to preserve Bloc solidarity. Earlier, however, it probably exercised a moderating influence in the dispute between Moscow and the Gomułka regime. Communist China's use of its influence in this manner was presumably motivated in large part by Peiping's desire to maintain the strength of the Bloc and to assert its right to a major voice in Bloc affairs. Further, Peiping has clearly indicated that its ideological pronouncements are intended to represent "original" and significant contributions to Marxism-Leninism, a contention which is probably of concern to Moscow. The ideological and political leadership of the Bloc can no longer be said to rest solely with the Soviet Union.

184. Moscow's willingness to allow Peiping a share in the ideological leadership of the Bloc and to acquiesce in Peiping's increased role in Bloc affairs is probably based to a large extent on the absence of any practical alternative. In Soviet eyes, any heavy pressure on Peiping,

such as threats to reduce economic or military aid, would almost certainly put an undesirable strain on Sino-Soviet ties. Therefore, despite anxiety, and probable subtle attempts to insure Peiping's basic conformity and to minimize its growing influence and assertiveness, the Soviet leaders will probably accept Peiping's increased stature with outward grace. Khrushchev has already admitted that Peiping too can be a fount of Communist wisdom. For its part, Peiping will probably continue to acknowledge publicly the USSR's leadership of the camp and its dependence on Soviet assistance and advice.

185. Though new points of friction will probably arise in the course of the next several years, differences will almost certainly be minor when compared to the basic points of agreement. In addition to ideological bonds, the USSR and Communist China share hostility to the US and are linked by the belief that concerted political and economic activities are mutually advantageous. Further, Communist China's manpower and strategic location and the USSR's military, industrial, and technical capabilities have served to create an interdependence fully appreciated in both capitals.

## VI. TRENDS IN SOVIET FOREIGN POLICY

## The Soviet View of the World Situation

186. In none of the many changes that have taken place since the death of Stalin has there been any suggestion that the USSR is abandoning its basic attitudes and aims. The outlook of the present Soviet leaders remains fundamentally conditioned by their concept of irreconcilable conflict between the Communist and non-Communist worlds. They have shown no diminution of vigor in their search for ultimate victory, though their views as to the best policies and tactics for winning it have undergone important change.

187. In looking at the world situation from this viewpoint of conflict, the Soviet leaders display much confidence in the prospects of the Communist side. They show pride in the USSR's achievements over the last four decades and appear convinced of the over-all strength of their present position in the world. Despite their setbacks in Eastern Europe, and the manifold internal problems which beset them, the new leaders seem confident of their ability to cope with these problems and to continue the growth of Soviet strength and the expansion of Soviet influence.

188. At the same time the USSR's post-Stalin leaders, especially Khrushchev, appear flexible and pragmatic in their appraisal of the factors at play in the world situation and of their impact on Soviet prospects. In particular, they seem to have a healthy respect for the strength of the US as the principal source of opposition to their ambitions and a keen awareness of those gaps which still separate Soviet from US power. Khrushchev himself clearly regards it as one of the primary Soviet objectives to outstrip the US. Indeed the Soviet leaders may tend to assess the strength of the Western powers as greater than it often appears to us in the West. They almost certainly still regard the US as having superior capabilities to wage nuclear war, and they may overestimate the unity of the Western coalition.

189. Given this respect for Western power, the Soviet leadership is highly unlikely to believe that the present situation would be altered to Soviet advantage by resort to general war. In fact its own growing appreciation of the destructive potentialities of nuclear weapons and advanced delivery systems, as the USSR itself develops such capabilities, has almost certainly had a major impact on Soviet thinking as to the risks of nuclear war. Doctrinal acknowledgment of a modified outlook toward war occurred at the XXth Party Congress, which abandoned the thesis of the inevitability of war between the Communist and capitalist worlds.

190. In our view the Soviet Union, except in the case of an unforeseen technological breakthrough which gives high promise of victory without unacceptable losses, will not deliberately initiate general war during the next five years. At the same time the Soviet leaders, despite their suspicions of US intentions, are probably confident that their own growing nuclear capabilities will deter the US from embarking on this course. Consequently they must regard miscalculation as the most likely way in which general war would occur.

191. For the same reasons which inhibit it from deliberately initiating general war the USSR will almost certainly seek to avoid courses of action which in its judgment would involve serious risk of general war. During any international crisis the Soviet calculation of this risk will be of paramount importance. We think that the Soviet leaders estimate that because of Soviet nuclear capabilities the US is becoming increasingly disinclined to engage in an all-out nuclear exchange. Consequently the Soviet leaders may believe that they can pursue certain aggressive courses of action, extending even to local war, with less risk of general war than the same courses would previously have involved. In general, therefore, we believe that insofar as Soviet courses of action are restrained by fear of the

US resorting to general war, these restraints will tend to diminish during the period of this estimate.<sup>27</sup>

192. We cannot confidently estimate how the Soviets will calculate the risk in various contingencies during the period of this estimate. We believe they would consider that open attacks by Soviet forces across the frontiers of non-Communist states would in most areas involve risk of general war. The Soviet assessment of the degree of risk would depend on the particular frontier crossed, the magnitude of the issues at stake, and the whole complex of attendant circumstances.

193. Whether or not the Soviets actually use armed force during the period of this estimate, it is clear that the latent threat of Communist military strength will remain a basic element in the conduct of Soviet foreign policy. At times the Soviet leaders will probably bring this threat into the open, by menacing words or harsh diplomatic exchanges. They may go considerably further in certain situations — e.g., by supporting indigenous Communist forces in local military action, or even sending Soviet "volunteers," if opportunities should occur which did not seem to involve serious risk of large-scale conflict, or if they judged that confusion and division rather than a strong Western reaction would result. But we remain convinced that the USSR will not desire to let any crisis develop to the point of seriously risking general war.

194. Since the Soviets believe in irreconcilable conflict between themselves and the West, their major policy decisions will always be affected to a great degree by their calculation of the risks of war. In the present phase this calculation almost certainly causes them to prefer non-military means of achieving their objectives. But we believe that they also see many intrinsic advantages in a comparatively peaceful course. Viewed in retrospect, it

<sup>27</sup> The Assistant Chief of Staff, Intelligence, USAF, does not agree with the estimate that the restraints on Soviet courses of action imposed by fear of the US resorting to general war will *tend to diminish* during the period of this estimate because of an *increasing* disinclination by the US to engage in an all-out nuclear exchange. See footnote to paragraph 2, Summary Estimate, page 1.

would seem that when the post-Stalin leaders reassessed the situation bequeathed to them by Stalin they came to two basic conclusions: (a) that, on the whole, Soviet foreign policies had reached a point of diminishing returns; and (b) that these policies involved needless risks for the returns realized. To limit these risks and open new opportunities for enhancing the Soviet position, they apparently decided on a number of major policy shifts.

195. As reflected in the main characteristics of post-Stalin foreign policy, these opportunities must have appeared to the present leadership to lie broadly in two fields. First, concerned over the impetus to Western strength and unity provided by Stalin's postwar policies, they have hoped through a less rigid and hostile posture to dispel the image of aggressive Soviet intentions and thus complicate Western efforts to maintain and develop a position of anti-Communist strength. In this connection the Soviet leaders must consider the extent to which new aggressive moves might compromise this hope.

196. Second, they saw in support of the nationalist movements in Asia and Africa, with their largely anti-Western bias, major opportunities to weaken and divide the Western powers, and to substitute Communist influence for that of the West. They look upon the upsurge of nationalism in Asia and Africa as a fulfillment of Lenin's prophecy that these areas would prove to be the Achilles heel of the imperialist Western powers. Moreover, they probably expect that the revolution of rising popular expectations in all underdeveloped areas will far outrun the possibilities of fulfillment, thus enhancing the attractiveness of Communist methods and creating local instability which the Communists can exploit.

197. However, the purge of June 1957 revealed that there had by no means been unanimous Presidium agreement over many aspects of post-Stalin foreign as well as domestic policy. Molotov in particular has been blamed for opposing certain doctrinal innovations, the Austrian peace treaty, the rapprochement with Belgrade, high level goodwill visits abroad, and normalization of relations with

Japan. Some latent opposition to present policies undoubtedly remains in the Soviet hierarchy, and may again come to the fore in event of a crisis, but the June purge seems to confirm the ascendancy of Khrushchev's policy line.

198. Khrushchev and his colleagues probably regard the present world situation as highly fluid and credit this fluidity largely to their own actions. They are probably pleased with the situation in Asia and the Middle East in particular, and look upon it as ripe to develop further in their favor. Though concerned over the risks inherent in a confrontation of Western and Soviet interests in such areas, they probably see possibilities of major gains through continuation of their present policies, at minimum cost to themselves. Moreover, Soviet behavior in international affairs, now that the Stalinist isolation of the USSR has ended, has become subject to a momentum of its own — broadened diplomatic relations, technical and cultural exchanges, and expanded trade and aid programs — which are not only projecting a different image of the USSR to the outside world but are giving the Soviet people themselves a less distorted image of the world at large. These factors will tend to prevent any sudden reversal of Soviet external policy. Under these circumstances we see the Soviet leadership as likely to continue its present policies for some time.

### General Aspects of the Co-existence Policy

199. Viewed in the above context, we see the present phase of Soviet external policy as one designed to achieve certain important though limited objectives, while avoiding any substantial risks of nuclear war and providing time for the further forced draft growth of Soviet power. These objectives are: (a) to impress the world with Soviet military strength and national power, while at the same time creating a general sense of Soviet peacefulness and respectability which will further blur the image of an aggressive USSR; (b) to cause a retraction and decline of Western power, especially withdrawal of the US from its bases around the Bloc; and (c) to hasten the ejection of Western influence from Asia and Af-

rica, while expanding Soviet influence in these areas.

200. A hallmark of present Soviet policy is its tactical flexibility in execution, in contrast to the heavy-handedness of Stalin's time. The pragmatic approach of Khrushchev and his fondness for experimentation suggest that this will continue at least so long as he remains in power. The present leadership, for example, shows fewer doctrinal preconceptions as to tactics, and greater willingness to modify doctrine to meet the exigencies of the time. In this category fall the ostensible acceptance of other roads to socialism and the concept, endorsed by the XXth Party Congress, that neutralist though non-Communist governments can also serve Soviet purposes. This concept has found particular application in Soviet efforts to encourage neutralism in the Afro-Asian area.

201. The significance of these doctrinal and tactical developments is very great. The advance of Communism is designed to occur by gradual stages instead of by convulsive upheavals. Thus the USSR has not recently pursued with its old vigor the forcible absorption and Communization of other states; it even manages to pose, convincingly to some, as the champion of national independence. The lines which divide the Communist from the non-Communist world have become somewhat blurred. The result is that when crises occur (e.g. in Egypt, Jordan, Syria), the underlying issues between the Bloc and the West do not stand out with the clarity that was evident, for example, in the Korean situation.

202. We believe that the Soviet leaders foresee the likelihood of further crises as the interests of the two great power groupings clash in such areas as the Middle East. With respect to Soviet behavior in such crisis situations, Khrushchev's boldness and apparent impetuosity give cause for concern. But the practicality of Khrushchev, his absorption with the USSR's manifold internal problems, and the Soviet desire to avoid undue risks of nuclear war will probably militate against hasty decisions in foreign affairs.

203. Whatever their flexibility, moreover, the present Soviet leaders apparently see no need

to make concessions on the most important issues dividing East and West. They appear determined, for example, not to relinquish any territory now under Communist control. Similarly, on such issues as German reunification and disarmament, we think that there will be little give in Soviet policy during the period of this estimate.

204. *Techniques of "Peaceful Co-existence."* In line with its new tactical flexibility, the USSR will continue to place heavy reliance on such conventional methods of international intercourse as high level goodwill visits, broadened diplomatic contacts, promotion of cultural and other exchanges, expanded foreign trade, long-term credits and technical assistance, and arms aid. Non-Communist governments will continue to be cultivated in an attempt to create an identity of interests between them and the USSR and to inculcate the image of the USSR as a respectable, peace-loving state. Following traditional Soviet practice, the USSR's extensive propaganda apparatus as well as the network of front organizations and Free World Communist parties will also be used to this end. A particular technique of increasing significance, is the Soviet capability and intention to enter international air routes. With few reciprocal concessions the Soviets can thus demonstrate their technological prowess to Free World countries, particularly in underdeveloped areas.

205. By such means the USSR will continue to stress a number of already well-established diplomatic and propaganda themes. Playing upon growing concern over avoiding nuclear war, it will contrast the USSR's role as the foremost protagonist of peace and disarmament with the aggressive intentions of the US. Another major theme is to portray the USSR as the chief supporter of the emerging former colonial countries, willing to help them "without strings attached," as opposed to US efforts to force these countries into anti-Communist alliances and continued US identification with the colonial powers. The USSR, through stressing peaceful Soviet intentions, is also seeking to convey the thesis that Communist-Free World collaboration is now possible in a wide variety of fields.

206. Despite the USSR's emphasis on "peaceful co-existence," its continued hostility toward the West implies the continuation in varying intensity, of more aggressive cold war tactics wherever the prospective gains appear to outweigh any damage to the over-all "co-existence" line. Savage propaganda attacks on capitalism, imperialism, and the West, especially the US, are likely to recur. The USSR will almost certainly also use subversion and infiltration to achieve local Communist goals in situations susceptible to advantageous handling along these lines. These techniques reflect the continuity of Soviet attitudes from the Stalin through the post-Stalin era, and there is little reason to expect their disappearance. Finally, the Soviets have recently laid a good deal of public stress on their growing nuclear capabilities, and we think they will increasingly use the latent threat of their military strength as an instrument of policy.

207. *Policy Toward the Underdeveloped Areas — Trade and Aid.* As previously suggested, one of the principal characteristics of current Soviet policy is its stress on underdeveloped countries, in an effort to estrange them from the West and to lay the groundwork for growing Soviet influence. In the needs of the new and underdeveloped countries of Asia and Africa for help and guidance in industrialization the USSR sees opportunities for influencing these states by providing assistance and encouraging them to employ Communist techniques. Therefore one of its principal weapons has been the so-called "trade and aid" campaign, of offering both arms and technical and economic aid on liberal credit terms. Not only do such efforts serve specific Soviet objectives vis-a-vis the underdeveloped countries, but they contribute to the desired image of the USSR as a respectable and economically advanced member of the international community.

208. By mid-1957 the USSR and its satellites had agreed to extend some \$1.15 billion in economic credits for this purpose, the bulk of which will be drawn upon over a period of several years. In addition arms of an estimated value of some \$350 million had been delivered, probably on credit, to Egypt, Syria, Yemen, and Afghanistan. In return the Bloc



has been willing to accept otherwise largely unsaleable raw material surpluses, an appealing feature to underdeveloped countries. Bloc trade agreements with Free World nations rose from 113 in effect at the end of 1953 to 212 by mid-1957, the largest part of this rise representing trade agreements with underdeveloped countries. Between 1954 and 1956 Bloc trade with underdeveloped countries rose 70 percent. Technical assistance, though still small in comparison with that of the West, continues to rise; during the first half of 1957, some 2,000 Bloc technicians are estimated to have been in 19 underdeveloped countries for a month or more, compared to an estimated 1,400 in 1956.

209. The volume of Bloc trade with the underdeveloped areas as a whole is still insignificant compared with that of the West, and the technical and economic assistance which the Bloc has thus far supplied is also relatively very small. Both trade and aid have had a highly significant impact, however, partly because they represent a new departure in Bloc policy, vigorously followed up, and partly because they have tended to be concentrated in certain areas (Egypt, Syria, Afghanistan, Yugoslavia) where they loom large in the economies concerned.

210. The Soviet leaders are probably pleased with what they regard as their success to date with this policy and will almost certainly intensify their efforts in this field. The USSR has the economic resources for a considerable expansion in its trade and aid campaign, while its extensive stocks of obsolescent arms will permit it to capitalize further on the desires of many underdeveloped countries to strengthen themselves vis-a-vis their neighbors. In areas where they expect local governments to be receptive, as in the Middle East and South Asia, the Soviets will probably continue to supply arms as a means of exacerbating local tensions and creating opportunities for the expansion of Soviet influence.

211. *Relations with Free World Communist Parties.* Soviet policy toward the Communist parties in Free World countries has been adjusted to the requirements of the "peaceful co-existence" line. Moscow continues to allow

them somewhat greater autonomy and local tactical flexibility than was permitted under Stalin, though it has sought to retain its essential control. The over-all tactic set down for the Free World parties, as reiterated at the XXth Party Congress, remains that of advancing Communist interests primarily by parliamentary means, if possible in collaboration with non-Communist parties, rather than through violent struggle.

212. Such developments as the denigration of Stalin, the Hungarian revolt, and ostensible Soviet acceptance of "many paths to Socialism" (as in Poland and Yugoslavia) have caused confusion and division in many foreign Communist parties and led to some defections. To date, however, these parties apparently continue to accept Moscow's leadership and will probably continue to do so for some time to come. Some foreign Communist parties may adopt more of a national Communist character than is considered desirable by Moscow, but the essential solidarity of the international Communist movement appears unlikely to be seriously shaken, at least in the short run.

213. *Soviet Policy on Disarmament.* Active exploitation of the disarmament issue is one of the key aspects of present Soviet external policy. The USSR clearly regards this issue not only as an essential part of its pose of "peaceful co-existence" but, even more important, as a possible means of neutralizing Western nuclear striking power and inducing its withdrawal from around the periphery of the Bloc. It is probably also concerned over the potential threat to its position in the Satellites from US and NATO power in Europe. For these reasons the USSR has tended to concentrate on such disarmament proposals as nuclear test suspension, a ban on use of nuclear weapons, liquidation of foreign bases, and troop withdrawals from Europe. By its maneuvers on such issues the USSR clearly hopes to encourage the relaxation of Western defense efforts, help undermine NATO and create divisions among its partners, and above all create a climate inhibiting Western use of nuclear weapons. In addition the USSR is probably concerned about the enormous cost of its military establishment and would

welcome a measure of disarmament which would permit some diversion of resources to meet other pressing needs. It may also have some concern over the possible development of nuclear capabilities by "fourth countries," particularly in Europe. However, we do not believe that either of these concerns would be compelling in Soviet thinking.

214. The Soviet leaders, no doubt pleased with the impact to date of their disarmament maneuvers, will continue to give the appearance of a flexible and constructive attitude in an effort to mobilize world opinion in their favor. They will lay further stress on simple proposals, calculated largely for their propaganda appeal, such as ending tests or banning the use of nuclear weapons. They clearly hope to broaden the UN discussions to include other powers, as also serving their ends. Further vague proposals designed to appear as attempts to meet the Western position are likely. The USSR may even make some further unilateral gestures at disarmament, perhaps the sloughing off of certain marginal forces, provided this seems desirable for other reasons.

215. While the USSR will thus rely largely on diplomatic and propaganda exploitation of the disarmament issue, it probably feels that some form of limited international agreement would reinforce its pose as the strongest exponent of disarmament, stimulate further relaxation of Western defense efforts, and inhibit the use of nuclear weapons. In Soviet eyes the preferred form of agreement would be a loosely drawn mutual pledge without significant inspection features. But the Soviet leaders undoubtedly recognize that they must pay some price for such an agreement in terms of inspection and controls. In our view they would be willing to accept limited inspection arrangements to detect violation of a nuclear test ban, and a minimal number of fixed observation posts in connection with any agreed arms reductions. Their interest in inducing a US troop withdrawal from Europe would probably lead them to go even further in allowing mutual inspection in Europe.

216. But the USSR clearly regards the present Western disarmament proposals as heavily loaded in favor of the West. In particular it

will almost certainly continue to reject comprehensive inspection and controls. As is amply indicated by their repeated denunciation of such proposals as elaborate intelligence gathering schemes, the Soviet leaders react suspiciously and defensively to these proposals as Western efforts to pry into Soviet weaknesses and to interfere with Soviet efforts to maintain a controlled society. In our view this deepseated distrust of the West and Soviet preoccupation with security will long remain a bar to any but the most limited inspection and controls. With equal suspicion, they almost certainly will reject any cut-off of nuclear weapons production as a Western attempt to condemn them to a permanent position of inferiority. Finally, the USSR does not as yet seem to regard itself as under any compulsion to reach an early agreement, since it sees that other factors are already leading to some degree of Western disarmament. It is also probably confident that growing Soviet capabilities and the pressure of world public opinion will eventually induce the Western powers to settle for less in the way of controls and inspection than they presently demand.

217. *Soviet Policy in the UN.* The Soviet leaders regard the UN and its various organs and specialized agencies as important forums for their "co-existence" policy in all its aspects. They have evinced growing awareness that when acting jointly with the Asian-African bloc, the Soviet bloc can frustrate Western policies or proposals, and they may even hope for UN endorsement of Soviet policies on certain issues. We believe that in the period of this estimate the USSR will seek to exploit the possibilities inherent in this situation and to this end will maintain and probably increase its activities in the UN and the specialized agencies.

#### Soviet Policy in Particular Areas

218. *The Middle East.* The USSR clearly regards the chief immediate prospects for expanding its influence as lying in the Middle East. The events of the past two years — the growing estrangement from the West of Egypt, Syria, and Yemen, and the Anglo-

French invasion at Suez — have almost certainly appeared to the USSR as offering further opportunities for substantial gain.

219. We consider that the USSR's aims in the Middle East are to eliminate Western bases and influence, to attain a position from which it could deny oil to the West, and ultimately to establish dominance in the area. The USSR is shrewdly supporting Arab nationalism against the West and is carefully avoiding an appearance of seeking undue political influence of its own; it is careful of Arab sensibilities and is soft-pedaling subversive activities aimed at promoting Communist regimes. Thus the short run Soviet emphasis will be on promoting neutralism and undermining the position of the West. The USSR will probably attempt to bring the Arab states gradually within the Soviet sphere of influence, but it is unlikely, over the next few years at least, to install Communist regimes.

220. The USSR appears to be carrying out a flexible and opportunistic policy of limited risk in the Middle East. It can be relied on to continue its attempts to capitalize on such disruptive forces in the area as Nasser's ambitions for Arab hegemony, Yemeni designs on the Aden Protectorate, the leftist coup in Syria, and the Arab-Israeli conflict, on which it is taking an increasingly pro-Arab position. It will provide further aid and support to Egypt and Syria in their attempts to undermine other Arab regimes. Above all, the USSR will seek to exploit the Arab-Israeli dispute, as the one issue on which Arabs are united and which can serve as a counter to Western efforts to unite the area against the Communist threat.

221. The USSR can be expected to continue to assert a right to a direct voice in the affairs of the area and to propose four-power or other negotiations to that end. It will also use the regimes in Egypt, Syria, and Yemen as indirect instruments of its policy in the area. The USSR might seek bases in one or more of these countries if opportunities offer; in any event the construction of installations, including port facilities, in the area for the operation and maintenance of Soviet-made armaments creates facilities which could be used

on short notice by the USSR. In addition it will continue its attempts to promote good relations with other states of the area. Renewed trade and aid, technical assistance and in some cases arms offers are likely. When local issues such as the revolt in Oman can be exploited, the USSR will do so.

222. But in pursuing the above policies, the USSR will be conscious of the extent to which vital Western interests are involved in the area, and in particular of expressed US determination to protect these interests. It will be concerned lest the further crises which will almost certainly develop in the area lead to local conflict between Western and Soviet-backed power or even between the great powers themselves, with resultant risks of general war. We believe that the conduct of the Soviet leaders in any such crises will depend directly upon the Western reaction they expect. They have already shown that they will not hesitate to provide arms and advisors or to adopt a threatening pose. In certain situations they might employ limited numbers of "volunteers." But the USSR must recognize the geographic factors which make it difficult to intervene militarily in the Middle East without violating the boundaries of US and UK allies. We believe that they will not desire to let any crisis or local outbreak reach such proportions as to involve serious risks of general war.

223. *South Asia and the Far East.* In these areas Soviet policy will probably remain focussed on promoting neutralism and reducing Western influence through trade and aid, goodwill visits, cultural and other exchanges, political support for popular nationalist causes, and a variety of other means. The USSR can be expected to concentrate further on India and Japan as the pivotal non-Communist nations in this area. It will almost certainly capitalize on India's growing economic difficulties and on the deep antagonisms between India and Pakistan through additional offers of assistance to India. Renewed Soviet arms offers are also likely to take advantage of India's concern over US military aid to Pakistan.

224. With respect to Japan, the "normalization of relations" will continue, with the objective of encouraging Japan to assume a more independent attitude at the expense of its ties with the US. Moscow and Peking may make further limited concessions to Japan for this purpose. They are probably confident that Japan's critical foreign trade needs will impel it to seek increased Sino-Soviet Bloc trade and that the domestic political forces at work in Japan are already gradually leading it toward a more independent foreign policy.

225. The USSR probably regards Southeast Asia as primarily a Chinese Communist area of influence. However, the Soviets will continue to stress their willingness to assist the countries of this area with long-term credits, technical aid, and purchases of their raw materials, while touting the value of Communist methods as the best way to achieve the economic development which these states desperately seek. The USSR will utilize still strong anti-colonial sentiments in these areas to stimulate and exploit differences with the Western powers.

226. Since 1954 the USSR has devoted special efforts to strengthening its influence in Afghanistan, perhaps initially because of fear that the Afghans would join the Baghdad Pact. We do not believe that the USSR intends to go so far as to convert Afghanistan into a satellite, primarily because such a move would alarm the non-Communist world and probably could be accomplished only through the use of Soviet military force. It is seeking instead to establish Afghan economic and military dependence on the USSR.

227. *Africa.* As part of its effort in the underdeveloped areas, the USSR will almost certainly increase its activities in Africa during the next five years. It is already trying to develop diplomatic and economic relations with the newly independent states of Morocco, Tunisia and Ghana, and is devoting somewhat greater efforts to Libya and the Sudan. It has offered trade, aid, technical assistance and, in some cases, arms. We do not believe that the USSR will during the period of this estimate undertake serious commitments or

become deeply involved in areas of Africa far removed from the center of Soviet power. Instead, it will probably confine itself to the establishment of its diplomatic and economic presence on the continent, to some limited encouragement of nationalist and anti-colonial movements, and to an attempt to end the exclusiveness of Western influence in most of the area.

228. Up to the present the USSR has been cautious in its support of Arab nationalism in North Africa against the French. If a settlement of the Algerian conflict does not occur fairly soon, however, we believe that the Soviets will probably become more active and outspoken in this respect, though it is likely that material support will be rendered through Egypt rather than directly.

229. *Western Europe.* Post-Stalin Soviet policy toward Western Europe appears to be strategically defensive in character, aimed more at protecting the USSR's position in Eastern Europe than at expanding Soviet influence beyond its present frontiers. Though the USSR obviously does not intend to neglect Western Europe, it probably considers that its opportunities for maneuver are limited at present, and is concentrating its efforts on more vulnerable areas.

230. The chief Soviet objective in Western Europe is to weaken and divide the NATO powers, and above all to induce a withdrawal of US military strength. Soviet disarmament policy and its attendant propaganda is directed largely at this target. The USSR will also continue to promote the concept of a detente in Western Europe, via some form of European security treaty which would replace both NATO and the Warsaw Pact. Indeed the USSR probably expects simply through its policy of "peaceful co-existence" and relaxed tensions to secure a reduction in NATO unity and arms outlays. Special attention will also be paid to exploiting differences among the NATO powers as well as weaknesses in individual countries.

231. We believe that the USSR will remain adamant on German reunification despite its recognition that its immovable stand on this

Issue limits its maneuverability in Western Europe. In our view the Soviet leaders are still acutely concerned over the potential threat of a revived and nationalistic Germany, backed by the US in seeking the recovery of its eastern territories. In Soviet eyes the continued division of Germany, with the USSR holding 18,000,000 East Germans as hostages, is the best means of limiting this threat. The Soviets are highly unlikely to believe that any formula for reunification will offer adequate guarantees against a reunified Germany's tacit or open alliance with the West. In addition, besides East Germany's military value

to them, they are probably fearful of the impact that loss of their East German satellite would have on their position elsewhere in Eastern Europe.

232. *Latin America.* This area has also been the target of Bloc diplomatic, economic, and cultural activity in an attempt to promote trade and other contacts and encourage friction with the US. Further efforts in this direction are likely, as well as continued local Communist Party and front group activity to promote anti-US sentiments and to obstruct Latin American cooperation with the US.

TABLE 1

ESTIMATED ACTUAL STRENGTH OF BLOC ACTIVE MILITARY PERSONNEL, MID-1957<sup>1</sup>

	ARMY GROUND FORCES	AIR FORCES (Including Naval Aviation)	NAVAL FORCES	SUBORDI- NATION UNKNOWN <sup>2</sup>	SECURITY FORCES	TOTALS (Excluding Security)
USSR (total)	2,650,000	825,000 <sup>3</sup>	725,000 <sup>4</sup>	75,000	400,000	4,275,000
EE Satellites (total)	950,000	96,000	37,700		293,000	1,083,700
Albania	30,000	1,500	800		10,000	32,300
Bulgaria	110,000	16,000	6,200		30,000	132,200
Czechoslovakia	170,000	23,000	—		45,000	193,000
East Germany	100,000	8,000	11,000		45,000	119,000
Hungary	75,000	— <sup>5</sup>	—		20,000	75,000
Poland	250,000	34,000 <sup>6</sup>	10,500		65,000	296,500
Rumania	215,000	13,500	9,200		78,000	237,700
Communist Asia (total)	3,164,000	107,250	52,300		610,000	3,323,550
Communist China	2,548,000	87,000 <sup>7</sup>	43,300		500,000	2,678,300
North Korea	348,000	20,000	7,000		—	375,000
Viet Minh	268,000	250	2,000		110,000	270,250
BLOC TOTALS	6,764,000	1,028,250	815,000	75,000	1,303,000	8,682,250

<sup>1</sup> Figures in this table are based on estimated order of battle. Estimates of this type yield approximate rather than precise measures of actual strength at any given time, and can lag considerably behind changes in actual strength.

<sup>2</sup> For purposes of this table, an estimated 110,000 Naval Aviation personnel are included in total Soviet air forces personnel strength.

<sup>3</sup> Does not include MVD naval forces, which for purposes of this table are carried in Soviet security forces total.

<sup>4</sup> Believed temporarily disbanded.

<sup>5</sup> Includes 2,000 naval air.

<sup>6</sup> Includes 8,000 naval air.

<sup>7</sup> Air defense control and warning (AC and W) personnel. The Assistant Chief of Staff, Intelligence, USAF, believes that of the total of about 75,000 Soviet AC and W personnel, 55,000 are in the air forces, 15,000 are in the ground forces; and 5,000 are in the naval forces. The Assistant Chief of Staff, Intelligence, Department of the Army, believes that of the 75,000 AC and W personnel, 60,000 are in the ground forces and the remainder in aviation units.

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TABLE 2

ESTIMATED STRENGTH OF BLOC GROUND FORCES IN LINE DIVISIONS, MID-1957

Country	Rifle Divisions			Mechanized Divisions			Tank Divisions			Cavalry Divisions			Airborne Divisions			Total No.
	No.	T/O	Actual <sup>1</sup>	No.	T/O	Actual <sup>1</sup>	No.	T/O	Actual <sup>1</sup>	No.	T/O	Actual <sup>1</sup>	No.	T/O	Actual <sup>1</sup>	
USSR <sup>*</sup>	90	13,335	8,850	55	15,415	9,800	20	13,670	8,900				10	9,000	7,000	175 <sup>*</sup>
Communist China	115	18,200	15,000				3	7,850	6,000	3	5,900	4,000	3	8,300	7,000	124
East Germany	5	11,500	8,000				2	11,500	8,000							7
Poland	12	11,500	8,000	6	14,000	10,000										18
Bulgaria	9	11,500	5,500													9
Czechoslovakia	8	11,500	8,000	4	14,000	8,000	2	11,500	7,000				1	6,000	4,000	15
Hungary <sup>4</sup>																0
Rumania	12	11,500	8,000	1	14,000	8,500	1	11,500	9,000							14
North Korea	18	10,600	9,500													18
Viet Minh	14	12,600	10,900													14
TOTAL	283			66			28			3			14			394 <sup>*</sup>

<sup>1</sup> Actual strengths of divisions vary. The figures shown represent estimated averages.

<sup>\*</sup> Estimated dispositions of Soviet line divisions: Occupied Europe, 32; Northwestern USSR, 13; Western USSR, 47; Southwestern USSR, 18; Southern USSR, 24; Central USSR, 10; Soviet Far East, 31.

<sup>4</sup> In addition, Soviet ground forces are estimated to include 20 artillery divisions, 80 antiaircraft divisions, and 120 separate brigades.

<sup>5</sup> No effective combat units.

<sup>6</sup> Estimated breakdown by major groupings: USSR, 175; Communist China, 124; European Satellites, 63; North Korea and Viet Minh, 32.

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TABLE 3  
ESTIMATED ACTUAL STRENGTH OF BLOC AIR UNITS, MID-1957 — MID-1962

	USSR	MID-1957 E.E. SAT	CCAF, NVA NKA	MID-1958 USSR	MID-1959 USSR	USSR	MID-1960 E.E. SAT	CCAF, NVA NKA	MID-1961 USSR	USSR	MID-1962 E.E. SAT	CCAF, NVA NKA
<b>FIGHTER</b>												
Jet (Day)	8,640	2,045	1,700	7,800	6,850	5,800	2,850	2,350	4,850	4,150	2,700	2,100
Jet (A/W)	1,320	65	30	2,350	3,300	4,350	350	270	5,350	5,850	710	740
Prop	—	90	35	—	—	—	—	50	—	—	—	—
<b>ATTACK</b>												
Jet (Ftrs.)	270	25	220	—	—	—	—	80	—	—	—	—
Prop	—	750	140	—	—	—	—	—	—	—	—	—
<b>LIGHT</b>												
BOMBER	3,020	150	510	3,100	3,100	3,100	230	870	3,050	2,950	230	890
Jet	—	—	210	—	—	—	—	—	—	—	—	—
Prop	—	—	—	—	—	—	—	—	—	—	—	—
<b>MEDIUM</b>												
BOMBER	900	—	—	1,150	1,250	1,250	—	50	1,200-1,300	1,150-1,250	—	60
Jet	585	—	20	440	290	140	—	50	140	140	—	60
Prop	—	—	—	—	—	—	—	—	—	—	—	—
<b>HEAVY</b>												
BOMBER	90-150	—	—	150-250	250-450	400-600	—	—	400-600	400-600	—	—
Jet	—	—	—	—	—	—	—	—	—	—	—	—
Turboprop	—	—	—	—	—	—	—	—	—	—	—	—
<b>TANKERS</b>												
TRANSPORT	1,760	110	190	1,350	1,300	1,200	120	330	1,100	1,000	110	330
Jet (Med.)	180	—	—	200	340	390	—	10	530	680	—	20
Prop (Med.)	—	—	—	—	—	—	—	—	—	—	—	—
<b>HELICOPTERS</b>												
Large	285	30	—	450	550	600	65	80	600	600	65	140
<b>RECONNAIS-</b>												
SANCE	50	—	40	80	80	80	110	60	80	80	130	80
Jet (Ftrs.)	495	10	10	690	690	690	40	75	690	690	40	90
Jet (Lt. Bmrs.)	150	120	10	160	160	160	30	20	160	160	30	10
Prop	—	—	—	—	—	—	—	—	—	—	—	—
<b>UTILITY/LIAISON</b>												
Jet (Ftrs.)	10	—	—	—	—	—	—	—	—	—	—	—
Jet (Lt. Bmrs.)	65	—	—	120	120	120	—	—	120	120	—	—
Prop	60	15	95	—	—	—	—	85	—	—	—	—
<b>TOTALS</b>	17,980-18,040	3,410	3,100	18,045-18,145	18,290-18,490	18,300-18,500	3,800	4,375	18,290-18,590	17,970-18,270	4,025	4,525

\* Including FLASHLIGHT and FRESCO D aircraft in Soviet units, but only FRESCO D in European Satellite and Asiatic Communist units.  
 \* Medium bombers assigned to Naval Aviation and (later in the period) to Tactical Aviation included in these totals.  
 \* See the footnote of the Assistant Chief of Staff, Intelligence, Department of the Army, the Director of Naval Intelligence, and the Deputy Director for Intelligence, The Joint Staff, to the Table on page 33.  
 \* The Assistant Chief of Staff, Intelligence, USAF, believes that the strengths estimated above in the medium and heavy bomber columns would all be bomber aircraft, and that additional tankers will be in operational units as follows:

TANKERS:

Mid-1957	Mid-1958	Mid-1959	Mid-1960	Mid-1961	Mid-1962
0	50-100	150-200	300-350	300-500	300-500

See his footnote to the Table on page 33.

ANNEX



TABLE 4

ESTIMATED GEOGRAPHIC DISTRIBUTION OF SOVIET AIRCRAFT STRENGTH BY ROLE,  
MID-1957

	Eastern Europe <sup>1</sup>	North- western USSR <sup>2</sup>	Western USSR <sup>3</sup>	West Central USSR <sup>4</sup>	Caucasus USSR <sup>5</sup>	East Central USSR <sup>6</sup>	Far East USSR <sup>7</sup>	Total
<b>FIGHTER</b>								
Jet (Day)	950	1,320	2,055	1,340	1,160	460	1,455	8,740
Jet (A/W)	80	220	320	260	150	50	240	1,320
<b>ATTACK</b>								
Jet (Ftr.)	115	—	40	—	75	40	—	270
<b>LIGHT BOMBER</b>								
Jet	240	455	1,195	190	245	80	615	3,020
<b>MEDIUM BOMBER<sup>8</sup></b>								
Jet	—	125	650	20	—	—	100	895
Prop	—	25	220	140	40	—	160	585
<b>HEAVY BOMBER</b>								
(By far the largest proportion of heavy bombers are in the Western and West Central USSR; a smaller number are in the Far East.)								
<b>TRANSPORT</b>								
Jet	—	—	—	—	—	—	—	—
Prop (Lt.)	115	145	480	385	65	60	510	1,760
Prop (Med.)	—	30	135	—	—	—	15	180
<b>HELICOPTER</b>								
Large	5	45	85	70	—	—	80	285
<b>RECONNAISSANCE</b>								
Jet (Ftr.)	50	—	—	—	—	—	—	50
Jet (Lt. Bmr.)	40	80	170	20	40	20	125	495
Prop (Seaplane)	—	35	10	—	25	—	80	150
<b>UTILITY/LIAISON</b>								
Jet (Ftr.)	10	—	—	—	—	—	—	10
Jet (Lt. Bmr.)	—	20	20	—	—	—	25	65
Prop (Misc.)	—	—	—	—	—	—	60	60
<b>TOTAL (rounded)</b>	<u>1,600</u>	<u>2,500</u>	<u>5,400</u>	<u>2,450</u>	<u>1,800</u>	<u>710</u>	<u>3,475</u>	<u>17,900</u>

<sup>1</sup> E. Germany, Poland, Hungary, and Rumania.

<sup>2</sup> Northern, and Leningrad.

<sup>3</sup> Baltic, Belorussian, Carpathian, Kiev, and Odessa.

<sup>4</sup> Moscow, South Ural, Volga, Votonezh, and Ural MD's.

<sup>5</sup> North Caucasus and Transcaucasus MD's.

<sup>6</sup> Turkestan and Siberian MD's.

<sup>7</sup> Far East and Transbaikial MD's.

<sup>8</sup> Includes medium bombers assigned to Naval Aviation.

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ANNEX

TABLE 5

ESTIMATED SOVIET AIRCRAFT STRENGTH BY ROLE WITHIN MAJOR COMPONENTS,  
MID-1957

	<u>TACTICAL AVIATION</u>	<u>FIGHTER AVIATION OF AIR DEFENSE</u>	<u>LONG- RANGE AVIATION</u>	<u>NAVAL AVIATION</u>	<u>AVIATION OF AIRBORNE TROOPS</u>	<u>TOTAL</u>
FIGHTER						
Jet (Day)	3,900	3,175	—	1,665	—	8,740
Jet (A/W)	430	600	—	290	—	1,320
ATTACK						
Jet (Ftr)	270	—	—	—	—	270
LIGHT BOMBER						
Jet	2,425	—	—	595	—	3,020
MEDIUM BOMBER						
Jet	—	—	850	45	—	895
Prop	—	—	550	25	—	575
HEAVY BOMBER <sup>1</sup>						
Jet	—	—	90-150	—	—	90-150
Turboprop	—	—		—	—	
TRANSPORT						
Jet	—	—	—	—	—	—
Prop (Lt. & Small)	780	95	230	150	505	1,760
Prop (Med.)	—	—	—	—	180	180
HELICOPTERS						
Large	50	—	—	90	145	285
RECONNAISSANCE						
Jet (Ftr.)	50	—	—	—	—	50
Jet (Lt. Bmr.)	385	—	—	110	—	495
Prop (Seaplane)	—	—	—	150	—	150
UTILITY/LIAISON						
Jet (Ftr.)	10	—	—	—	—	10
Jet (Lt. Bmr.)	5	—	—	60	—	65
Jet (Misc.)	60	—	—	—	—	60
TOTAL AIRCRAFT	8,365	3,870	17,020-17,080	3,180	830	17,965-18,025

<sup>1</sup> See the footnotes to the Table, page 33, by the Assistant Chief of Staff, Intelligence, Department of the Army, the Director of Naval Intelligence, the Assistant Chief of Staff, Intelligence, USAF, and the Deputy Director for Intelligence, The Joint Staff.

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TABLE 6

ESTIMATED PERFORMANCE OF SOVIET LONG RANGE AIRCRAFT  
(Calculated in accordance with US Mil-C-5011A Spec)

Combat Radius/Range (n.m.)	BULL	MODIFIED BULL	BADGER	1958' BADGER	BISON	1958' BISON	1960' BISON	BEAR	1961 MB-61*
a. 25,000 lb. bombload one refuel <sup>1</sup>	—	—	—	—	2,350/4,500 3,200/6,000	2,450/4,700 3,300/6,300	2,650/5,100 3,600/6,900	3,500/6,600 4,750/—	—
b. 10,000 lb. bombload one refuel <sup>1</sup>	1,700/3,100 2,300/4,200	2,000/3,600 2,700/4,900	1,500/2,800 2,000/3,800	1,650/3,200 2,200/4,300	2,550/5,000 3,450/6,700	2,850/5,200 3,600/7,000	2,900/5,800 3,900/7,500	3,800/7,300 5,150/—	.
c. 3,300 lb. bombload one refuel <sup>1</sup>	1,950/3,500 2,650/4,700	2,300/4,100 3,100/5,500	1,700/3,300 2,300/4,400	1,850/3,600 2,450/4,900	2,600/5,200 3,550/7,000	2,750/5,500 3,750/7,400	3,000/5,900 4,050/7,900	3,950/7,800 5,300/—	1,750/3,400* 2,350/4,600*
Speed/Altitude (kts./ft.)									
a. Max. speed at optimum altitude (kts./ft.)*	350/30,000	360/30,000	550/13,200	555/14,000	530/18,000	535/18,800	535/18,800	495/21,400	1,085/35,000*
b. Target speed/target altitude (kts./ft.)*	310/30,000	340/35,000	475/40,300	475/41,900	460/40,000	460/42,400	460/42,400	435/39,000	865/47,000*
Combat Ceiling (ft.)*	36,500	37,500	45,000	46,000	43,000	45,500	45,500	40,600	57,500*

\*Refueling estimates based upon use of compatible tankers which provide approximately 35 percent increase in radius/range.

\*Predicted jet medium bomber with supersonic "dash" capability.

\*Capable of carrying 11,000 pound, 100 n.m. ASM.

\*Includes 500 n.m. "dash."

\*For 3,300 lb. bombload.

\*For 10,000 lb. bombload unless otherwise indicated.

\*The increased performance indicated for the 1958 BADGER and the 1960 BISON is based upon an estimate of normally expected improvement during the period through 1960.

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TABLE 6—continued

**ESTIMATED SOVIET LONG RANGE AIRCRAFT PERFORMANCE UNDER AN OPTIMUM MISSION PROFILE**  
(Calculated in accordance with US Mil-C-5011A Spec except that fuel reserves are reduced to permit a maximum of 30 minutes loiter at sea level, and aircraft operate at altitudes permitting maximum radius/range)

Combat Radius/Range (n.m.)	BULL	MODIFIED BULL	1958*		1960*		1961 MB-61*
			BADGER	BISON	BISON	BEAR	
a. 25,000 lb. bombload one refuel <sup>1</sup>	—	—	—	2,600/4,900 3,500/6,600	2,950/5,600 3,950/7,500	3,750/7,100 5,100/—	—
b. 10,000 lb. bombload one refuel <sup>1</sup>	1,800/3,300 2,400/4,500	2,150/4,000 2,900/5,400	1,800/3,400 2,400/4,600	2,800/5,500 3,800/7,400	3,200/6,300 4,300/8,500	4,200/8,100 5,750/—	—
c. 3,300 lb. bombload one refuel <sup>1</sup>	2,050/3,700 2,750/5,000	2,450/4,600 3,350/6,200	1,800/3,600 2,450/4,800	2,950/5,800 3,950/7,800	3,300/6,600 4,450/8,900	4,400/8,700 6,100/—	1,950/3,800* 2,850/5,100*
<b>Speed/Altitude (kts./ft.)</b>							
a. Max. speed at optimum altitude (kts./ft.) <sup>2</sup>	350/30,000	360/30,000	555/14,000	530/18,000	540/18,800	495/21,600	1,085/35,000*
b. Target speed/target altitude (kts./ft.) <sup>3</sup>	310/30,000	340/35,000	475/40,800	460/40,900	460/43,400	410/41,900	865/47,000*
Combat Ceiling (ft.) <sup>4</sup>	36,500	37,500	45,400	44,000	46,500	41,200	57,500*
<b>Terminal Target Altitude (ft.)<sup>5</sup></b>							
a. 25,000 lb. bombload	—	—	—	52,500	54,200	48,200	—
b. 10,000 lb. bombload	41,500	42,500	50,000	54,200	55,800	50,000	61,000
c. 3,300 lb. bombload	42,000	43,000	51,500	54,800	56,500	51,000	62,500

<sup>1</sup>Refueling estimates based upon use of compatible tankers which provide approximately 35 percent increase in radius/range.  
<sup>2</sup>Service ceiling at maximum power with one hour fuel reserves plus bombload aboard. No range figure is associated with this altitude.  
<sup>3</sup>Predicted jet medium bomber with supersonic "dash" capability.  
<sup>4</sup>Capable of carrying 11,000 pound, 100 n.m. range ASM.  
<sup>5</sup>Includes 500 n.m. "dash."  
<sup>6</sup>For 3,300 lb. bombload.  
<sup>7</sup>For 10,000 lb. bombload unless otherwise indicated.  
<sup>8</sup>The increased performance indicated for the 1958 BADGER and the 1960 BISON is based upon an estimate of normally expected improvement during the period through 1960.

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TABLE 7

ESTIMATED PERFORMANCE OF SOVIET LIGHT BOMBER AIRCRAFT  
(OPTIMUM MISSION PROFILE)

	1950 <u>BEAGLE</u>	1951 <u>MADGE</u> <sup>1</sup>	1954 <u>BEAGLE</u>	1951 <u>BOSUN</u>	1958 <u>MADGE</u> <sup>1</sup> (Turboprop)	1958 Supersonic Tactical
Combat Radius/Range (n.m.)	735/1,400	580/1,450	745/1,400	765/1,510	790/1,980	900 <sup>2</sup> /1,600 <sup>3</sup>
Bombload (lbs.)	4,400	5,000	4,400	4,400	4,400	6,600
Maximum speed at optimum alt. (kts./ft.)	460/15,000	165/SL	480/19,000	475/15,000	270/5,000	Mach 1.23/35,000
Target speed/target alt. (kts./ft.)	385/39,000	110/5,000	395/42,200	400/35,100	—	Mach 1.06/43,000
Combat Ceiling (ft.)	43,800	19,700	46,900	43,000	22,000	57,300

<sup>1</sup> May also be used in antisubmarine warfare.

<sup>2</sup> Includes 50 n.m. "dash" radius.

<sup>3</sup> Includes 100 n.m. "dash."

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TABLE 8

ESTIMATED PERFORMANCE OF SOVIET TRANSPORT AIRCRAFT  
(Calculated in accordance with Mil-C-5011A Spec)

Power Plants Number Type	1937 CAB	1947 COACH	1955 CRATE	1956 CAMEL	1957 CONVERTED BULL	1958 CAMP	1958 TU-114	1958 CAT or COOT*	1959 COOKER
	2	2	2	2	4	2	4	4	4
	Piston	Piston	Piston	Turboprop	Piston	Turboprop	Turboprop	Turboprop	Turboprop
Combat Radius/Range (naut. miles)	810/ 1,525	665/ 1,335	750/ 1,570	950/ 2,040	1,670/ 3,150	730/ 1,440	2,500/ 5,200	1,000/ 2,200	1,800/ 3,800
Payload									
Passengers or	15	18	18	50	—	—	180	100	135
Troops or	20	21	21	60	42	80	220	145	175
Cargo (lbs.)	3,850	5,000	4,600	23,000	25,700	20,000	38,000	25,000	45,000
Speed/Opt. Alt. <sup>1</sup> (Kts./Ft.)	165/ 5,000	238/15,000	238/15,000	580/SL	300/20,000	280/17,000	500/20,000	450/20,000	535/20,000
Cruise Speed/Alt. <sup>2</sup> (Kts./Ft.)	115/10,000	165/10,000	160/10,000	430/32,800	198/10,000	230/15,000	505/20,000	325/25,000	425/33,000
Service Ceiling	16,600	26,500	26,500	37,100	39,550	31,000	40,000	35,000	50,000
Remarks:	Soviet Version of DC-3			Transport Version of Badger	Transport Version of Bull	Assault Transport	Transport Version of Bear		

<sup>1</sup> Normal rated power.

<sup>2</sup> Constant altitude mission.

\* Believed to be competitive designs; only one may be produced.

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TABLE 9

ESTIMATED BLOC NAVAL VESSELS, END-1957 — MID-1962

YEAR	End-1957										TOTAL ALL FLEETS			Mid-62			
	FLEET AREA		Baltic		Northern		Black Sea		Pacific		Total All Fleets		TOTAL ALL FLEETS				
COUNTRY	USSR		Satel- lites		USSR		USSR		USSR		USSR		USSR		USSR		Satellites & Communist China
MAJOR SURFACE VESSELS*																	
Heavy Cruisers	2	0	0	0	0	2	0	0	0	0	6	5	3	1	1	0	
Old Heavy Cruisers	5	0	0	0	0	0	0	0	0	0	0	1	3	5	5	0	
Light Cruisers	5	0	6	5	0	4	1	0	1	0	20	19	19	15	15	0	
Old Light Cruisers	1	0	0	1	0	0	0	0	0	0	2	2	2	2	2	1	
Guided Missile Cruisers	0	0	0	0	0	0	0	0	0	0	0	1	6	10	10	0	
Destroyers	57	1	31	31	1	40	4	168	2	4	159	176	169	158	155	1	
Old Destroyers	1	1	3	2	4	2	0	11	14	8	0	14	26	41	44	10	
Guided Missile Destroyers	0	0	0	0	0	0	0	0	0	0	0	1	4	8	12	0	
Escort Vessels	23	2	16	22	0	31	2	104	116	2	92	116	128	140	146	12	
TOTAL	89	4	56	63	5	79	7	311	338	287	9	338	360	380	390	24	
SUBMARINES*																	
Postwar Long-Range*	57	0	100	60	0	35	2	242	242	252	0	2	242	242	242	28	
Other Long-Range*	5	0	13	0	0	2	4	15	10	20	0	4	5	0	0	2	
Old Long-Range	8	0	17	6	0	9	0	37	39	40	0	0	34	29	27	2	
Guided Missile (Converted, topside storage)	0	0	7	0	0	3	0	10	20	10	0	0	20	20	20	0	
New Types*	0	0	1	0	0	0	0	0	4	1	0	0	29	55	70*	0	
Postwar Medium-Range*	49	0	0	0	0	0	0	49	89	0	0	0	109	129	139	0	
Other Medium-Range*	8	0	0	0	0	0	0	8	6	8	0	0	4	3	2	0	
Old Medium-Range	2	3	0	4	3	10	4	16	13	16	6	4	6	6	6	3	
Short Range	25	6	0	9	0	19	4	53	48	53	6	4	48	46	40	10	
Old Short-Range	7	0	0	10	3	18	1	35	30	35	3	1	15	11	16	3	
TOTAL	161	9	138	89	6	96	15	484	503	484	15	15	512	541	562	48	

\* In addition to the major surface vessels shown, we estimate that in mid-1957 there were 1,760 minor surface vessels in Soviet service, and 475 in the Satellites and Communist China. Minor surface vessels include amphibious, minewarfare, and patrol vessels. "Old" surface ships are those more than 20 years old.

\* For a discussion of the factors which may affect future Soviet submarine construction and strength, see DISCUSSION, paragraphs 144 and 144a. "Old" submarines are those 15-20 years old.

\* Conventional submarines of post-World War II design and construction, including W and Z-class long-range and Q-class medium-range.

\* Submarines older than post-World War II but less than 14 years old.

\* Of these 70 new type submarines, the following tentative estimate is made of the possible types: 10 nuclear-powered, 10 nuclear-powered guided missile, 20 conventional-powered guided missile, and 30 submarines of improved design.

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TABLE 10

ESTIMATED COMPOSITION OF BLOC MERCHANT FLEETS  
MID-1957 and MID-1962  
(Ocean-going vessels, 1,000 GRT and up)

	MID-1957			
	NON-TANKER		TANKER	
	No.	GRT	No.	GRT
USSR	690	2,317,996	85	475,126
SATELLITES	113	428,879	3	18,444
COMMUNIST CHINA	106	268,860	10	13,834
TOTAL	909	3,015,735	98	507,404

	MID-1962			
	NON-TANKER		TANKER	
	No.	GRT	No.	GRT
USSR	882	3,122,000	154	1,071,000
SATELLITES	164	643,000	11	98,000
COMMUNIST CHINA	132	354,000	19	47,000
TOTAL	1,178	4,119,000	184	1,216,000

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