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NATIONAL
INTELLIGENCE
ESTIMATE

CIA HISTORICAL REVIEW PROGRAM
RELEASE AS SANITIZED

Soviet Forces for Intercontinental Attack

ANNEX I

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NOTE

THIS ESTIMATE CONTAINS EXTREMELY SENSITIVE MATERIAL
AND IS TO BE HANDLED ON A STRICT NEED-TO-KNOW BASIS.

*The following intelligence organizations participated in the preparation of
this estimate:*

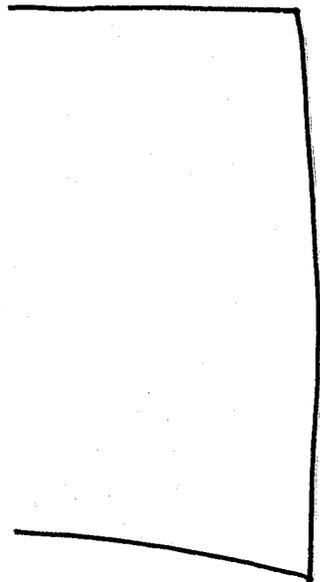
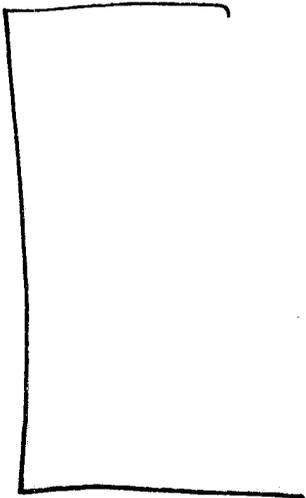
The Central Intelligence Agency and the intelligence organizations of the Depart-
ments of State and Defense, the AEC, and the NSA.

Concurring:

- The Deputy Director of Central Intelligence
- The Director of Intelligence and Research, Department of State
- The Director, Defense Intelligence Agency
- The Director, National Security Agency
- The Assistant General Manager, Atomic Energy Commission

Abstaining:

The Assistant to the Director, Federal Bureau of Investigation, the subject being
outside of his jurisdiction.



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ANNEX I

COST OF ILLUSTRATIVE SOVIET FORCE MODELS

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Costing Methodology

1. Estimates of Soviet spending for each of the illustrative force projections shown in the Appendix to Section XII were developed on the basis of a methodology utilizing *direct costing*. This approach begins with a detailed statement of the forces. These forces are then multiplied by estimates of what they would cost both in *rubles* and in *dollars*.¹ Finally, the results are summed into totals and sub-totals using expenditure categories similar to those used by the US Department of Defense.

2. Available intelligence information has made it possible to develop a large data base for the costing process. The costing of projected force levels utilizes our understanding of past Soviet deployment practices, information on rates of production, manning levels, and operating procedures. In most cases the cost data used are based on US analogs, but

¹ The dollar figures are approximations of the cost of the estimated Soviet program if purchased and operated in the US.

the costs are always a reflection of our understanding of the physical make-up of the Soviet weapon systems and the Soviet procedures for operating and maintaining them.

3. In effect, the costing process amounts to building a Soviet military budget for inter-continental attack systems—line item by line item—from the base up. The work is done twice, once in rubles and once in dollars. A specific ratio of rubles to dollars is used for each resource input to Soviet military programs.² Individual calculations are necessary because no single ruble-dollar relationship can accurately reflect all the different types of expenditures that make up defense spending. If the official exchange rate were applied to the ruble calculation of Soviet defense

² As the mix of the resources used by the Soviets changes, the ratio of the overall cost expressed in rubles to that expressed in dollars will also change. As a result, a ruble expenditure which equates to a certain dollar expenditure in one year will not necessarily equate to the same dollar expenditure in another year.

spending, for example, it would provide a grossly understated view of the magnitude of the Soviet effort.

4. The estimates made in *rubles* show how the costs of individual programs would look and compare with each other from the point of view of Soviet defense planners. The ruble estimates also provide a Soviet view of how spending for defense programs relates to other Soviet economic activity—e.g., investment programs for economic growth and programs aimed at improving the lot of the consumer. (See Table I.)

5. The expenditure estimates expressed in *dollars* provide an appreciation of the size of Soviet defense programs in terms that are familiar to US planners and policy makers, and they make it possible to compare Soviet expenditures with those on US programs. (See Table II.)

6. In the technique of direct costing, estimates are made of both Soviet "investment" and operating costs. Investment expenditures include outlays for the procurement of new weapons and equipment, and for construction of facilities. Operating expenditures include outlays for personnel (such as pay and allowances and food) and for operation and maintenance (such as spare parts and gasoline).

7. Total Soviet expenditures for military research, development, test, and evaluation (RDT&E) can only be estimated in the aggregate, based on an analysis of Soviet financial data. There is not enough information on individual Soviet programs to permit direct costing estimates of the total or of that for intercontinental attack systems. All of the expenditure estimates presented exclude spending for military RDT&E.

Expenditure Estimates³

8. Illustrative Force A would cost about 8.2 billion rubles (the equivalent of \$21.6 billion) over the period 1970-1975, an average of about 1.4 billion rubles (\$3.6 billion) per year. The spending pattern for this force would be one of rapid decline from the highest point in 1970 to annual expenditure levels from 1973 on that would provide substantial savings—about a billion rubles a year—compared with the average level of expenditures in the previous six years.

9. The three illustrative B forces yield expenditure patterns that are similar to one another. For the period as a whole, spending for both Force B-1 and B-2 would average about 1.8 billion rubles (\$4.6 billion)—somewhat less than during the 1964-1969 period—and spending for Force B-3 would be somewhat higher—2.1 billion rubles (\$5.3 billion). Expenditures for all three models would decline gradually after 1970 so that by 1974, at the latest, annual expenditures would be below the average for the 1964-1969 period.

10. The expenditures implied by Illustrative Forces C and D represent large increases in spending for intercontinental attack programs. For the period 1970-1975 as a whole, Force C would require outlays roughly a third greater than those of the previous six years. Expenditures would reach a peak in 1973 of 2.8 billion rubles (\$6.4 billion) and would decline thereafter.

³ Because expenditures for procurement of equipment and construction of facilities for new weapon systems usually begin some two or three years before the systems become operational and the forces from which these figures were derived were projected only to 1978, the costs of the illustrative forces were projected only through 1975.

11. Spending for Illustrative Force D would amount to about 18 billion rubles (\$42 billion) over the period 1970-1975. Annual outlays would increase steadily over time reaching by the mid-1970s levels almost double the average level of spending in the previous six years.

Validity of the Estimates of Expenditures

12 The validity of the estimates of expenditures depends on the reliability of the underlying estimates of the size and composition of the forces being costed, and on the accuracy of the prices applied to that data. The physical data base reflects the combined collection and analytical efforts of the Intelligence Community; its adequacy is discussed in Part XI of the text and the earlier portion of Part XII. Many of the cost factors are necessarily derived only from analogous US data and experience—but they are probably

reasonably accurate. The expenditure estimates for the historical period are believed to be accurate as to trend and level. For projections, of course, actual force levels as well as costs of new systems are more uncertain, and this uncertainty increases as the time period for the projections is extended.

13. We believe that the ranking of the illustrative force models according to total spending levels is accurate. Similarly, the projected direction and rate of change in spending for each of the forces is probably close to the mark. In general, we are much less certain about absolute levels of spending although we are still confident that the estimated spending for any element—e.g., ICBMs—of a *given* force projection can be usefully compared with the estimated spending on the same element in other illustrative projections.

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TABLE I
ESTIMATED SOVIET EXPENDITURES FOR
ILLUSTRATIVE FORCE MODELS

	ANNUAL AVERAGE						CUMULATIVE	
	1964-1969	1970	1971	1972	1973	1974	1975	1970-1975
Billions of Rubles*								
MODEL A								
ICBMs	1.5	1.7	1.3	0.8	0.6	0.5	0.5	5.4
SLBMs	0.2	0.5	0.6	0.5	0.3	0.2	0.2	2.1
Bombers	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.7
TOTAL	1.9	2.4	2.0	1.4	0.9	0.8	0.8	8.2
MODEL B-1								
ICBMs	1.5	1.8	1.4	1.0	0.9	0.9	0.6	6.6
SLBMs	0.2	0.5	0.5	0.6	0.6	0.4	0.2	2.8
Bombers	0.2	0.2	0.1	0.1	0.3	0.3	0.3	1.3
TOTAL	1.9	2.4	2.1	1.7	1.8	1.6	1.1	10.7
MODEL B-2								
ICBMs	1.5	1.7	1.4	1.1	1.0	0.8	0.6	6.6
SLBMs	0.2	0.5	0.6	0.6	0.6	0.4	0.3	2.9
Bombers	0.2	0.2	0.1	0.1	0.3	0.3	0.3	1.3
TOTAL	1.9	2.4	2.1	1.8	1.8	1.5	1.1	10.8
MODEL B-3								
ICBMs	1.5	1.8	1.6	1.4	1.2	0.9	0.9	7.9
SLBMs	0.2	0.5	0.6	0.6	0.6	0.6	0.4	3.2
Bombers	0.2	0.2	0.1	0.1	0.3	0.3	0.3	1.3
TOTAL	1.9	2.4	2.3	2.2	2.1	1.8	1.6	12.4
MODEL C								
ICBMs	1.5	1.7	1.4	1.6	2.0	1.9	1.6	10.3
SLBMs	0.2	0.5	0.6	0.6	0.6	0.4	0.3	2.9
Bombers	0.2	0.2	0.1	0.1	0.3	0.3	0.3	1.3
TOTAL	1.9	2.4	2.1	2.3	2.8	2.6	2.2	14.5
MODEL D								
ICBMs	1.5	1.9	1.9	2.2	2.4	2.2	2.6	13.1
SLBMs	0.2	0.5	0.5	0.4	0.5	0.7	0.7	3.3
Bombers	0.2	0.2	0.1	0.2	0.4	0.4	0.5	1.7
TOTAL	1.9	2.5	2.5	2.8	3.3	3.2	3.7	18.1

* NOTE: Because of rounding, components may not add to the totals shown. The ruble values are expressed in constant prices so that only changes in the underlying programs will cause changes in the levels of spending.

TABLE II
ESTIMATED SOVIET EXPENDITURES FOR
ILLUSTRATIVE FORCE MODELS

	ANNUAL AVERAGE							Billions of Dollars*	
	1964-1969	1970	1971	1972	1973	1974	1975	CUMULATIVE 1970-1975	
MODEL A									
ICBMs	3.4	4.0	3.2	2.2	1.6	1.4	1.5	13.9	
SLBMs	0.6	1.4	1.6	1.4	0.6	0.4	0.4	5.9	
Bombers	0.4	0.4	0.3	0.3	0.3	0.3	0.2	1.8	
TOTAL	4.4	5.8	5.1	3.9	2.5	2.1	2.2	21.6	
MODEL B-1									
ICBMs	3.4	4.0	3.4	2.6	2.3	2.1	1.6	16.1	
SLBMs	0.6	1.4	1.4	1.7	1.6	1.1	0.6	7.9	
Bombers	0.4	0.4	0.4	0.4	0.7	0.7	0.8	3.3	
TOTAL	4.4	5.8	5.3	4.6	4.6	4.0	3.0	27.3	
MODEL B-2									
ICBMs	3.4	4.0	3.6	2.8	2.3	1.9	1.6	16.1	
SLBMs	0.6	1.4	1.6	1.7	1.5	1.1	0.6	7.9	
Bombers	0.4	0.4	0.4	0.4	0.7	0.7	0.8	3.3	
TOTAL	4.4	5.8	5.5	4.8	4.5	3.7	3.0	27.3	
MODEL B-3									
ICBMs	3.4	4.1	3.9	3.5	3.0	2.4	2.3	19.2	
SLBMs	0.6	1.4	1.6	1.6	1.7	1.8	1.1	9.3	
Bombers	0.4	0.4	0.4	0.4	0.7	0.7	0.8	3.3	
TOTAL	4.4	5.8	5.8	5.5	5.4	4.9	4.2	31.8	
MODEL C									
ICBMs	3.4	4.0	3.6	3.7	4.2	4.0	3.7	23.2	
SLBMs	0.6	1.4	1.6	1.7	1.5	1.1	0.6	7.9	
Bombers	0.4	0.4	0.4	0.4	0.7	0.7	0.8	3.3	
TOTAL	4.4	5.8	5.5	5.7	6.4	5.9	5.1	34.4	
MODEL D									
ICBMs	3.4	4.3	4.3	4.9	5.1	4.7	5.5	28.8	
SLBMs	0.6	1.4	1.5	1.2	1.3	1.9	1.9	9.2	
Bombers	0.4	0.4	0.4	0.4	1.0	1.0	1.2	4.3	
TOTAL	4.4	6.1	6.2	6.5	7.4	7.5	8.5	42.3	

* NOTE: Because of rounding, components may not add to the totals shown. The dollar values are expressed in constant 1968 prices so that only changes in the underlying programs will cause changes in the levels of spending.

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