

SECTION 37

NIE 13-8-74

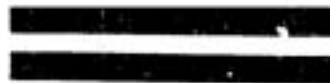
China's Strategic Attack Programs

13 June 1974

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NATIONAL INTELLIGENCE ESTIMATE

China's Strategic Attack Programs

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CHINA'S STRATEGIC ATTACK PROGRAMS

KEY JUDGMENTS

China's programs to develop and deploy nuclear weapons have slowed since 1971, probably reflecting

- a shifting of national economic priorities to emphasize agriculture and basic industry coinciding with diminished influence of the military in policy circles since the fall of Lin Piao
- a changed perception of the strategic environment resulting from some combination of: a) China's acquisition of a modest but credible nuclear retaliatory capability against the USSR, b) improved relations with the US, and c) perceived constraints on the USSR due to Soviet detente with the US.

China now has a force of about 130 nuclear delivery vehicles—half missiles and half bombers. Its stockpile of nuclear weapons is probably sufficient for all the missiles, though perhaps not for all the bombers. These systems have the range to hit US forces and bases in Asia as well as targets in the eastern USSR but cannot attack the continental US. China's force suffers from a number of vulnerabilities, but has achieved a measure of survivability through concealment, mobility, and hardening.

China's present objective probably is to obtain a token nuclear capability to strike the USSR west of the Urals and the continental US.

- It will gain a token capability to strike European Russia when its limited-range ICBM becomes operational, possibly late this year or, more likely, in 1975.

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— It is developing two missile systems that could strike the continental US: a) a full-range ICBM that will not be operational before 1977, and, given the present pace of development, probably not until 1979 or later; b) a submarine-launched ballistic missile system that will not be operational before 1978 at the earliest, and probably will be later.¹

Over the longer term, Peking almost certainly will seek to deploy a stronger deterrent force against the US and the USSR. It is also reasonable to expect China to strengthen its regional deterrent and to increase its options for responding to limited nuclear attack.

Assuming a continuation of present trends, which appears likely, China by 1980 may have some 120 missiles and well over 100 bombers for delivery of nuclear weapons against peripheral targets, including those in the USSR, and a few, say six, ICBMs and one or two nuclear missile submarines for use against the US as well as the USSR. Such a force would confer on China a somewhat improved capability to deter nuclear attack by the USSR and, for the first time, an ability to strike the continental US.

In the less likely event that China makes accelerated progress, it might have some 30 ICBMs and four nuclear missile submarines by 1980. Such a force would significantly improve China's deterrent posture against both the US and USSR.²

¹ For the position of the Director of Naval Intelligence see the footnote on page 6.

² For the position of the Director, Defense Intelligence Agency see the footnote on page 7.

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SUMMARY

China's nuclear weapon programs have slowed markedly since 1971. It now seems likely that China will only moderately improve its regional nuclear strike capability over the next few years and probably will not deploy full-range ICBMs or a ballistic missile submarine before the late 1970s.

Force Development Policy. The general nature of the slowdown suggests the influence of national-level policy decisions, and not solely technical problems with individual programs. Beginning in 1971, and roughly coinciding with the purge of Lin Biao and the subsequent reduction of the role and influence of the military in the government, China's national economic priorities began shifting to agriculture and basic industry and away from military procurement. China's present leadership may believe that devoting a greater share of resources to basic industry and perhaps to research and development would contribute more to China's national power over the long run than pouring large resources into the production of obsolescent aircraft and first-generation missiles.

Certain programs which could yield significant improvements in China's strategic capabilities several years hence are still moving ahead, although for the most part slowly—for example, the programs to develop solid-propellant missiles and a ballistic missile submarine and the construction of facilities for the production of nuclear materials and for R&D work on airframes and aircraft engines. On the other hand, programs which could yield quick but limited improvements in China's nuclear weapons posture are languishing—the programs for the limited-range (3,000-3,500 nm) CSS-X-3 ICBM and the TU-16 bomber, for example.

The decisions to move ahead more slowly with programs for nuclear forces probably reflect a change in the Chinese perception of the strategic environment, resulting from some combination of: (a) China's acquisition of a modest but credible nuclear retaliatory capability against the USSR, (b) improved relations with the US, and (c) perceived constraints on the USSR due to Soviet detente with the US.

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Present Forces. China's nuclear strike force has grown slightly over the past two to three years but its composition remains unchanged. Then and now the Chinese have a capability for nuclear strike by missiles and bombers all around the periphery of China at distances up to 1,650 nm. While most of this capability has a strategic orientation, some of it is intended for a theater support role within China's borders. At the present time, the Chinese are estimated to have operational:

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China's present stockpile of nuclear weapons is probably sufficient for all its operational missiles, though perhaps for only a portion of the bombers.

Presently deployed Chinese missiles have a capability to strike all US bases and allies on the periphery of China, and most of them can strike Soviet targets east of the Urals. The TU-16s can reach somewhat beyond the same areas, though their capabilities to penetrate to heavily defended Soviet targets are limited. The IL-28s could attack Soviet targets close to the border, and could also reach Korea and Taiwan and, with staging from points close to the border, northern Luzon in the Philippines and nearly half of South Vietnam.

Survivability. The Chinese have attempted to achieve survivability of their nuclear deterrent through a combination of concealment, mobility, and hardening. Missile units are deployed either in a semimobile mode, moving from garrisons to temporarily occupied, inconspicuous field sites, or at fixed soft sites with tunnels to protect missiles and essential equipment but with unprotected launch pads. Camouflage and other means are used extensively to conceal the locations of these launch areas. There are indications that some further deployment of the CSS-2 IRBM may be in the semimobile mode. Provisions for the survivability of Chinese bombers are not as extensive as those for the missile force.

- about 60 TU-16 jet medium bombers, capable of delivering nuclear bombs, with an operating radius of 1,650 nm and deployed at four airfields.
- possibly a few nuclear-armed IL-28 jet light bombers, with an operating radius of 570 nm.

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Chinese View of Their Deterrent. The Chinese probably believe that they have acquired a modest but nonetheless credible nuclear retaliatory capability against the USSR. At the same time, it is clear that they realize that their force remains vulnerable in important respects.

- They are working on a phased-array radar northwest of Peking, but presently have no effective means of detecting the approach of hostile ballistic missiles.
- Redundant, hardened strategic communications for the missile force are under construction, but are not complete as a nationwide system.
- Reaction time for present missile forces is several hours. The Chinese may be looking to future systems to give them faster reaction time.

China must also be aware that its present ability to deter nuclear attack through the threat of nuclear retaliation would be marginal if the stakes were high.

- In the case of the Soviet Union, it depends on Soviet fears for the security of some few cities in Siberia and the Soviet Far East, and perhaps on Soviet uncertainty about IRBM deployment in western China which might be within range of some cities in the Urals.

- In the case of the US, it rests on US fears for the security of a few US bases and cities of allies in the Far East.

Chinese Goals. The scale and variety of the nuclear and missile development and production facilities that China has established indicate that Peking's ultimate objective is to build a strategic nuclear capability befitting a major power. There is no reason to believe, however, that Peking aspires to match the capabilities of US and Soviet nuclear forces. When considered in relation to US and Soviet programs, Chinese strategic programs represent a small effort. The pace of the Chinese effort, moreover, is slow and deliberate, and programs are undertaken with an economy of means, reflecting limited Chinese resources.

China's present objective probably is to obtain a token nuclear capability to strike the USSR west of the Urals and the continental US. Over the longer term, Peking almost certainly will seek to build a force of nuclear delivery vehicles that will be a stronger deterrent to nuclear attack by either the US or the USSR. It is also reasonable to expect that China will attempt to improve and somewhat expand its regional and theater nuclear capability, both to strengthen its regional deterrent and to increase its options for responding to limited nuclear attack.

Prospects for Major Systems. The Chinese may acquire a limited capability to strike Soviet targets west of the Urals, possibly starting in late 1974 but more likely in 1975. By then, they may have completed two of the three silos in the field now being built for the CSS-X-3. An initial operational capability (IOC) for the CCS-X-3 in late 1974 or 1975 would also require either an early resumption of flight testing or that the Chinese be satis-

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fied with the very limited flight test program accomplished before 1971. While the missile could possibly reach Moscow

it could not reach US targets except for a portion of Alaska and several US bases in the mid-Pacific, including Guam. There is no evidence of preparations for further CSS-X-3 deployment.

The Chinese have no capability to attack the continental US directly and are unlikely to attain one for several years. The full-range (7,000 nm) CSS-X-4 ICBM now under development could not be operational until 1977 at the earliest

In their most recent test of the CSS-X-4, the Chinese attempted to use it to orbit a satellite, which could mean that the current priority of the CSS-X-4 program is its application as a large space booster.

The other system under development by China that could directly threaten the continental US is the ballistic missile submarine. Construction of one or more such units is probably under way, and the lead hull might be launched this year or next. The missile for the system probably will be a two-stage solid-propellant SLBM, comparable in size to the early US Polaris and probably capable of delivering a nuclear warhead to a range of some 1,500 to 2,000 nm. Flight testing of such a missile has not yet begun, and probably will take at least three years. Therefore, even if test firings begin soon, the missile is unlikely to be ready for system integration with the first operational SSBN before mid-1977. Allowing for a minimum of six months for full integration of the system, the earliest IOC date would be 1978. But in view of China's lack of experience in the flight testing of

solid-propellant systems, IOC might be considerably later.³

Prospects for Future Forces. Under alternative assumptions, Chinese prospects are assessed as follows:

- If the Chinese show little more urgency and no greater rate of development and deployment progress over the next several years than in the past few years, they may have by 1980 some 120 missiles and well over 100 bombers for use against peripheral targets, including those in the USSR, but only a few, say 6, ICBMs and one or two SSBNs capable of attacking the US.
- If the Chinese make accelerated progress in the development of intercontinental systems and second-generation regional systems, and shift resources to hasten their deployment, by 1980 they might have a regional force of about the same size as above, but qualitatively improved, and some 30 ICBMs and about four SSBNs capable of attacking the US.

The first projection is a better reflection of Chinese performance to date and we have no present basis for predicting any marked improvement. It would mean that by 1980 China would have somewhat improved its capability

³ The Director of Naval Intelligence, Department of the Navy, believes that China's submarine-launched ballistic missile program appears to have made significant progress during the past year. Testing of an ejection or launch-assist device installed in the P3C G-class submarine apparently has been conducted. Some land-based testing of a SLBM could have occurred

If submarine firings begin soon and proceed smoothly and the SSBN is launched this year as expected, the SLBM/SSBN system could reach IOC in late 1978. A more likely IOC would be by mid-1977.

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to deter nuclear attack by the USSR by virtue of:

- an enlarged and improved regional strike force;
- an emergency strike capability against targets in the Far East by one or two relatively invulnerable SSBNs;
- a token and vulnerable capability to strike targets in European Russia with a handful of ICBMs in silos.

The intercontinental strike element of this force would have conferred on China for the first time the ability to strike the continental US. This would have considerable political and psychological value. But the ICBM force would be small and vulnerable and only the SLBMs would represent a survivable retaliatory force, and then only for short periods.

In the less likely event that China makes accelerated progress in the development of intercontinental systems and second-generation

regional missile systems, the Chinese by 1980 could have a significant capability to deter nuclear attack by the USSR—a capability that the Chinese could feel fairly confident would deter Soviet nuclear attack unless the stakes were very high. This improved deterrent posture would be based principally on China's expanded ICBM force—some 30 ICBMs in silos, a force probably large enough for assured retaliation against large populated areas in European Russia.

This number of ICBMs would also improve China's deterrent position versus the US. Moreover, with four nuclear submarines, during periods of tension China might be able to keep one or two nuclear missile submarines on patrol in the North Pacific from where they could strike targets in the US.⁴

⁴The Director, Defense Intelligence Agency, believes that a third case, reflecting a lesser effort, should also be included. A third force mix would concentrate on a more limited force, and intercontinental ballistic missile systems would be sacrificed at the expense of expanding other budgetary sectors.

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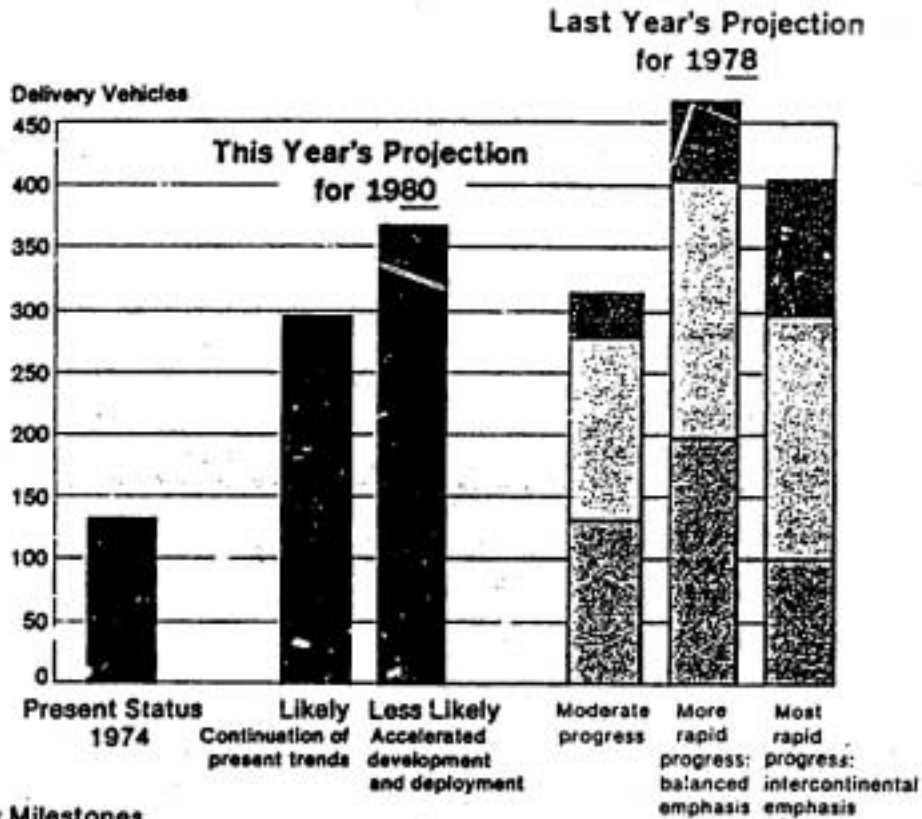
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Projections of China's Strategic Nuclear Delivery Force
(NIE 13-8-74 compared with NIE 13-8-73)



Key Milestones

IOC of limited-range ICBM	1975	1975	1974	1974	1974
IOC of full-range ICBM	1979	1977	1977	1976	1976
IOC of SLBM*	1979	1978	1977	1977	1977
IOC of solid-propellant MR/IRBM	1979	1978	1978	1977	1976

- Missiles capable of reaching US: full-range ICBMs and SLBMs
- Missiles capable of reaching only Asian and Soviet targets, including limited-range ICBMs
- Bombers capable of reaching only Asian and Soviet targets: TU-16's and nuclear-equipped IL-28's

NOTE: All bars represent high sides of ranges of uncertainty under the stated conditions.

* For the position of the Director of Naval Intelligence see footnote on page 6.

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I. NUCLEAR FORCE DEVELOPMENT POLICY

1. China's plans to create a nuclear force, as evidenced by analysis of its development and deployment programs, have passed through several stages. Hindsight suggests that a decision was made at an early date to concentrate initially on developing and deploying as quickly as possible a missile force with a capability against peripheral targets that would constitute the beginnings of a deterrent against attack by the US and its allies, or any potential adversary. The development effort was based mostly on the aid provided by the USSR before the Sino-Soviet split in 1960. Given the incomplete status of this assistance program and the rudimentary nature of China's technical and industrial base at the time, this was an ambitious undertaking. Nonetheless, it appears to have succeeded. There is good evidence now that a limited number of nuclear-equipped CSS-1 MRBMs and some Soviet SS-2-type short-range ballistic missiles (SRBMs) were deployed by the end of 1968.

2. By the mid-1960s the Chinese had begun to prepare for the next phase of their plan for nuclear forces. This phase coincided with a sharp rise in Sino-Soviet tension and with a period when China's military establishment was in political ascendancy. The objective during this period, apparently, was to expand China's minimal regional deterrent and to achieve a measure of strategic deterrence against both the US and the Soviet Union. Starting in the mid-1960s, the Chinese considerably expanded their R&D and production facilities. The effort progressed throughout the second half of the 1960s despite the serious turmoil created by the Cultural Revolution, suggesting that it had high priority and some degree of immunity from the political situa-

tion. By the early 1970s, CSS-1 deployment had been expanded, the CSS-2 IRBM had been developed and initially deployed, testing of the technically similar and longer range CSS-X-3 (which could reach west of the Urals) had started, and the first two Chinese earth satellites had been successfully orbited. Flight testing of a large full-range ICBM, the CSS-X-4, also began in this time period, and the foundations were laid for a major solid-propellant program, including the development of an SLBM.

3. The pattern of China's progress toward an intercontinental nuclear strike capability and an enhanced regional deterrent force began to change in a marked way in 1971.

— After November 1971, there were no further test launches of the CSS-X-3 ICBM,

Work on three operational silos for the CSS-X-3, begun in 1969 and 1970, continued at a slow pace. So far as we know, no others were started.

— After a successful test in September 1971, the CSS-X-4 full-range ICBM was test-launched once in 1972 and twice in 1973,

— After 1971, no additional fixed launch sites for the CSS-2 were started, although work continued at fixed sites already under construction.

— China's program to develop an SLBM continued to make steady, gradual progress but the program has moved more

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slowly than expected and flight testing of an SLBM still has not occurred.

— China's production of the TU-16 strategic bomber began to decline from the rate of about two aircraft per month in 1971 to one per month in 1972 and then was suspended in 1973.

— Production of IL-28 light bombers began to decline from a high of about five per month in 1971 to a current rate of two per month.

4. A year ago it seemed possible that the slow progress in some programs was a phase and that after a time all or most programs would move forward rapidly. This has not occurred and it is now clear that the strength levels projected for China's strategic forces in NIE 13-8-73 will not be achieved. That Estimate indicated that by mid-1978, assuming moderate progress, China might have some 140 missiles and an equal number of TU-16 bombers for use against peripheral targets, including those in the USSR, as well as some 15 ICBMs and one or two SSBNs for use against the US.⁸ It now appears that by mid-1978, the Chinese capability is likely to fall short of even this moderate improvement in their forces.

5. Although technical or programmatic reasons can be adduced in all cases to explain each program's termination or limited progress, the overall pattern suggests the influence of more general, national-level economic and strategic factors. And indeed, there is evidence from China's economic policy debates and from developments in nonstrategic military programs that 1971 was a turning point for the country's overall defense weapons policy.

⁸ NIE 13-8-73, China's Strategic Attack Programs, dated 7 June 1973, TOP SECRET

6. It is clear that in 1971, roughly coinciding with the purge of Defense Minister Lin Piao and a number of his military associates on the Politburo, national economic priorities were shifted to give more priority to agriculture and basic industry, apparently to some extent at the expense of military procurement. During 1971 there was a debate over the allocation of resources between the steel and electronics industries which was probably partly related to defense issues. After the fall of Defense Minister Lin Piao, a national economic planning conference was held in late 1971 and early 1972 to review the shortcomings of past policies. Little is known of any decisions made at the conference, but a long-range policy emphasizing the primacy of agriculture and the need for industry to support agriculture has been in effect since.

7. In 1972 and 1973, industrial production continued to expand at about 8 percent per year and certain sectors—petroleum, fertilizer, steel, and transportation—grew at even higher rates. During this same period, several military programs, in addition to those strategic programs already noted, slowed perceptibly. Examples are military aircraft production and destroyer construction. Not all programs slowed and indeed we have noted increases in conventional submarine and tank production. In some cases technical as opposed to policy decisions may explain the decrease in activity. Nevertheless, it seems clear that a number of important military programs slowed at a time when the other sectors in Chinese industry were expanding—a trend which implies that priorities had shifted.

8. A policy review in late 1972 led to China's purchase during 1973 of 1.2 billion dollars' worth of whole industrial plants from the West, the first such massive imports since the cessation of Soviet aid. These plant imports

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appear to supplement rather than replace ongoing domestic investment programs. There has also been some increase in weapons-related imports but not on the same scale. Thus, developments of the past year in China's import policy reinforce the impression that a relative shift in resources and emphasis from military to civilian industries has occurred since late 1971. Nevertheless, it is not possible to determine whether there has been any shift of priorities or resources within the military between general purpose forces and strategic forces.

9. Within the strategic weapons category, developments during the past year seem to indicate that certain programs which could yield significant improvements in China's strategic capabilities several years hence are moving ahead, although for the most part slowly. For example, the construction of facilities for the production of nuclear materials and for research and development of airframes and aircraft engines is proceeding steadily, and work continues on programs to develop solid-propellant missiles and a ballistic missile submarine. On the other hand, programs which could yield quick but relatively limited improvements in China's nuclear weapons posture seem to be languishing. These include initial operational deployment of the CSS-X-3 system, and the TU-16 production program.

10. China's failure to move forward briskly with aircraft production and missile deployment programs could be due just as much to strategic considerations as to technical and economic ones. The current leadership may believe that devoting a greater share of resources to basic industry and perhaps to research and development would contribute more to China's national power than pouring

large resources into the production of obsolescent aircraft and first-generation missiles. The Chinese may have judged that while they could moderately improve the capabilities of their regional nuclear forces, they had no hope, in the near term, of deploying nuclear delivery systems in modes and numbers sufficient to establish a credible retaliatory capability against European Russia. They may believe that future systems offer a better prospect of bolstering their capabilities against the USSR. Improved relations with the US may have reinforced China's technical and economic reasons for not moving rapidly to deploy intercontinental missile systems. Moreover, the PRC leadership may have come to believe that the retaliatory capability they had already achieved against targets in Siberia and Central Asia together with US-USSR detente had decreased the USSR's option for an outright attack on China.

II. THE STATUS AND DIRECTION OF FORCES AND PROGRAMS

The SRBM Force

11. During the past year, for the first time since 1965, an SRBM unit was observed deployed at a field launch site. The unit was observed at Mu-chia-yen in north-central China, a location enabling it to cover potential routes within China by an invader moving through Sinkiang or from Mongolia. (See Figure 1.) Although SRBM equipment had been observed at a few missile-related installations in China since 1962, their locations appeared inappropriate for operational deployment of the system. The more recent evidence suggests that the Chinese have had a few SRBMs operationally deployed since the early 1960s.

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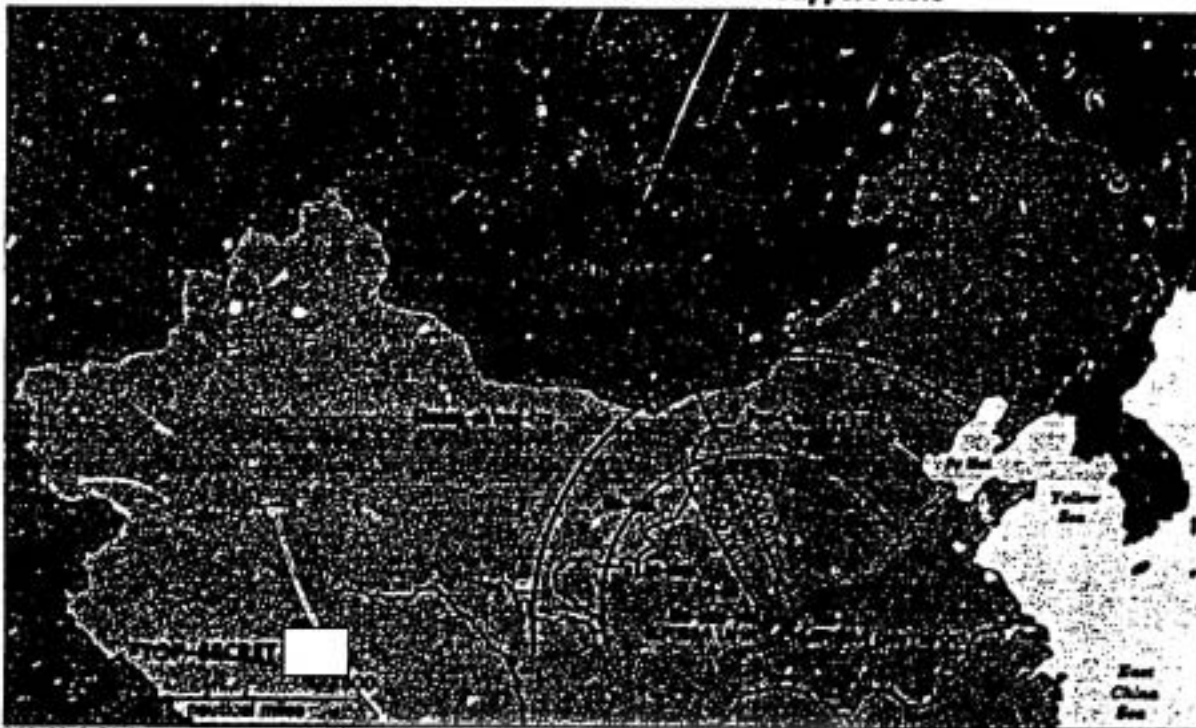
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Figure 1

Chinese Missile Units with a Theater Support Role



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Estimated Characteristics and Performance of
the Short-Range Ballistic Missile

IOC*	1962 (high-explosive warhead)
	1966 (nuclear warhead)
Configuration	Single stage
Propellants	Cryogenic

12. We do not know how many SRBMs units are deployed—perhaps only a few,

It is unlikely that any new SRBM units were formed after later generation missiles became available and, since there is no evidence that the system is still in production, additional deployment is unlikely. The total force probably does not exceed 10 launchers.

* Initial Operational Capability

* All estimated ranges in this Estimate are expressed in terms of a non-rotating earth (NRE).

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The CSS-1 Force

13. Although it is an obsolescent and cumbersome missile system with slow reaction times, the CSS-1 appears likely to remain in China's inventory for several more years at least. Two launches were conducted recently from the Shuang-ch'eng-tzu Missile Test Range, the first since December 1971. Their purpose probably was to test operational crew proficiency and missile system reliability. Production of the CSS-1 may have ended in 1970. The deployed force—now some 20-30 launchers—probably has not increased since 1972 at the latest.

Estimated Characteristics and Performance of
the CSS-1 Medium-Range Ballistic Missile*

IOC	1968
Configuration	Single stage
Length	
Diameter	
Propellants	Cryogenic, probably liquid oxygen and alcohol

14. There is some evidence that part of the CSS-1 force is being relocated for use primarily in a theater support role.⁷

The CSS-2 Force

15. During the past year, deployment of China's CSS-2 IRBM system continued at a measured, deliberate rate. Some 30-35 launchers are estimated to be operational now. About five launchers are known to have been

Estimated Characteristics and Performance of
the CSS-2 Intermediate-Range Ballistic Missile

IOC	1971
Configuration	Single stage
Length	
Diameter	
Propellants	Storable liquid

*The CSS-2 has never been test-fired to a range of more than about 1,350 nm, equivalent to some 1,400 nm NRE. Although this falls short of true IRBM range—1,500 to 3,000 nm—the uncertainties about the CSS-2's characteristics leave open the possibility that it could fly to at least 1,500 nm, so it is considered an IRBM.

⁷That is, for employment against relatively fixed targets supporting the operations of enemy forces, such as troop concentrations, staging areas, and invasion routes. Such use is distinguished from tactical use in support of ground forces which are in direct contact with an enemy.

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brought to operational status during the past year—about average for the program.

same period.

16. The present slow rate of deployment suggests that the Chinese do not intend to increase the size of the CSS-2 IRBM force significantly. Some further expansion of the force may occur if the Chinese replace the CSS-1 system with the CSS-2 at some established sites and institute some semimobile deployment of the system. There is a growing body of evidence that China is exploring semimobile deployment of the CSS-2 and, in fact, may already have begun deployment in this mode.

Estimated Characteristics and Performance of the CSS-X-3 Intercontinental Ballistic Missile

Configuration	Two stages
Length	
Diameter	
Propellants	storable liquid

The CSS-X-3 Program

17. The CSS-X-3 regional ICBM program continues to be a major enigma in China's strategic weapons effort. The system has not been flight-tested in over 2½ years,

Furthermore, there is no evidence that any CSS-X-3 silos are being built. It appears therefore, that while the Chinese have not abandoned the program, they plan to deploy the system in only token numbers.

18. The CSS-X-3 flight test program includes only two firings of the vehicle in a missile role, both from the Ching-yu rangehead to a range of some 2,000 nm,

With a small third stage, the vehicle was also used to launch China's two successful satellites during the

19. When the CSS-X-3 reaches IOC in late 1974 or, more likely, the first half of 1975, as estimated, the Chinese will have a token capability to cover targets in the European USSR, possibly including Moscow. They may consider the creation of such a capability sufficient justification for deploying a largely untested missile. The reasons behind the decision to truncate the program are unknown, but probably include political and strategic considerations as well as the costs of deploying enough CSS-X-3s to form a credible threat to the European USSR.

The CSS-X-4 Program

20. China's first true ICBM-class system, the CSS-X-4, continued to run into technical problems during the past year. Of the four launches of the system made to date, only the first one—in September 1971—appears to have been completely successful.

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After an interval, on-pad exercises with a CSS-X-4 missile began in mid-January 1974 and are still continuing. (See Figure 3). The activity may involve only checkout of the launch facility or training. A launching—either one in-country or another attempt to launch a satellite—could be scheduled to occur sometime in the next few months.

Estimated Characteristics and Performance of the CSS-X-4 Intercontinental Ballistic Missile

Configuration	Two stages
Length	
Diameter	
Propellants	Storable liquid

91. It is still much too early to reach confident conclusions as to when the CSS-X-4 might reach IOC as a weapon delivery system. Continuation of work on large R&D launch silos for the system at the Wu-chai rangehead during the past year indicates that the Chinese retain their interest in using the CSS-X-4 as a weapon system. (See Figure 4.) One of these silos, started in 1968, could finally be ready to support flight testing of the CSS-X-4 by the end of this year. Construction of a second silo there, started in mid-1971, is also proceeding slowly. There is, however, no evidence of the construction of operational silos for the CSS-X-4 in the field

if construction of operational silos is started soon, the system probably could attain IOC sometime in 1977 at the earliest. If the difficulties take longer to correct, or new ones appear, IOC will be even later, say in 1979.

22. Given the history of the program to date, it seems unlikely that the program will move smoothly and uninterruptedly toward an early IOC. It is even possible that there will be no deployment of the CSS-X-4 in the period of this Estimate. The fact that the Chinese attempted to use the system to orbit a satellite could mean that the current priority in the CSS-X-4 program is its application as a large space booster. Launches of the system in a space role obviously will also provide much valuable data on its potential performance as an ICBM. Such an interim objective would be compatible with the slowness in the R&D silo construction at Wu-chai—nearly six years in duration—and the apparent absence thus far of construction of operational silos in the field.

23. There are a number of priority space applications which probably need the payload launch capability of a vehicle as large as the CSS-X-4. These include a photoreconnaissance satellite for collecting strategic targeting data and other intelligence, and a communications satellite for both military and civilian use. There is substantial evidence pointing to Chinese interest and activities in these and other types of satellite payloads. This evidence includes statements by Chinese scientists at international meetings, the construction over the last several years of a significant space-tracking network in China,

and construction of some 20 probable ground stations for a domestic communications satellite program.

The Development and Production of Missile Systems

24. China has made a substantial investment over the past 15 years in developmental testing and production facilities for both liquid- and solid-propellant missile systems.

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Construction continued to be observed at several of these sites over the past year. In terms of the total number and variety of such facilities now available, the Chinese have the production and testing capacity for supporting a ballistic missile and space effort far larger than the one which is apparent. (See Figure 5.)

25. Current operational Chinese ballistic missile systems all use liquid propellants, and a major investment has been made in the facilities needed to develop and produce such systems. These facilities were initially concentrated in the Peking area. In the mid-to-late 1960s, however, a large production complex was built near Feng-chou in east-central China. A large developmental facility for propulsion systems was started in about 1970 near

Wu-hsing southwest of Shanghai. The Wu-hsing installation now is nearing completion and appears to be designed to develop and perform static tests of both liquid- and solid-propellant systems. At least two possible propulsion test facilities have been discovered recently near An-ning and Sul-yang.

26. Although the Chinese have not yet flight-tested a solid-propellant ballistic missile, their continuing investment in facilities capable of developing and producing solid-propellant rocket motors of various sizes up through strategic class has considerable significance for the future. The first such complex, at Hu-ho-hao-t'e, Inner Mongolia, was started in the mid-1960s and further expanded several years ago. Despite the substantial capacity of this installation, the Chinese started to build an-

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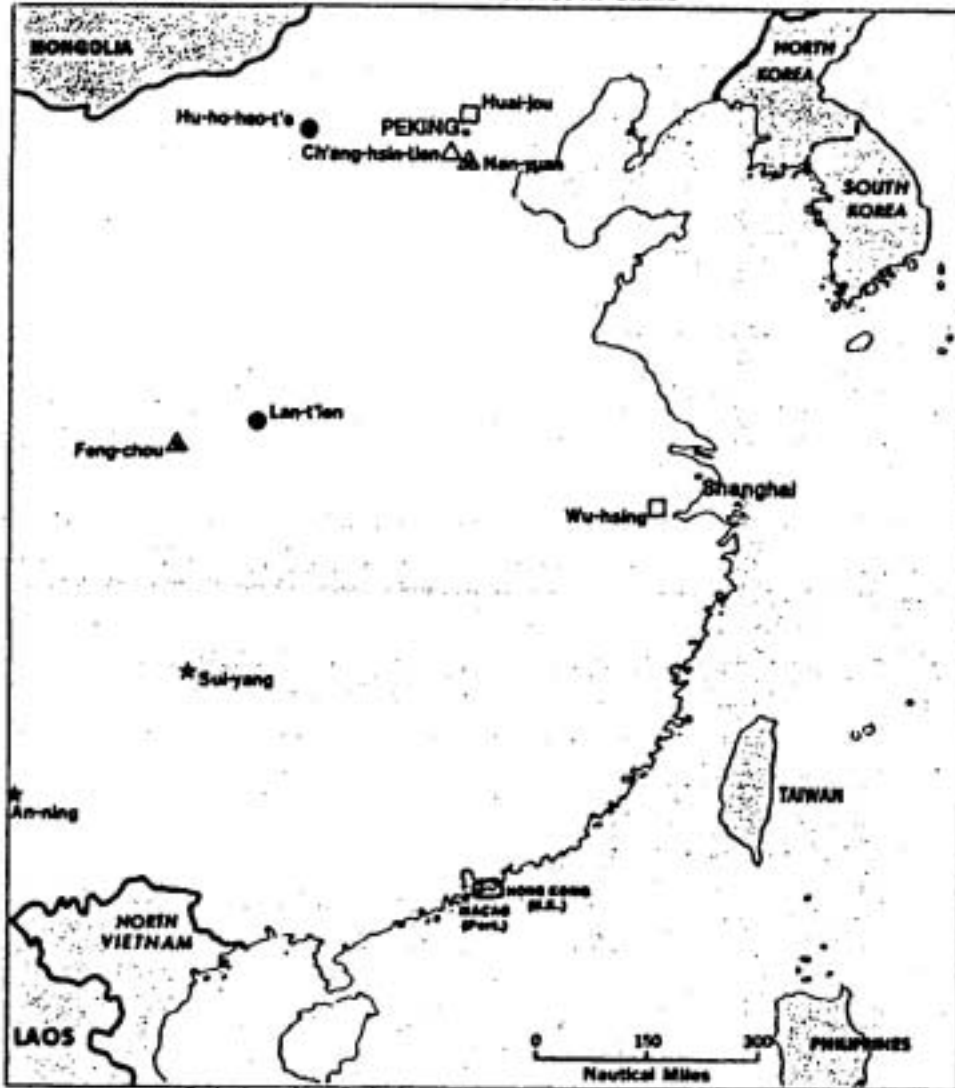
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Figure 5

Missile Development and Production Facilities in China



	Production and Development	Production	Development
Liquid propellant facility	—	▲	△
Solid propellant facility	●	—	—
Facility associated with both liquid and solid propellants	—	—	□
Undetermined type of propellant facility	★	—	—

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other comparable large solid-propellant complex near Lan-t'ien in east-central China in the late 1960s. The overall appearance of this facility, particularly the identification there of three and possibly four static test stands, now indicates that, like Hu-ho-hao-t'e, it too is designed to develop and produce several different types of rocket motors, including at least some in the strategic class.

27. Static firing of several types of strategic-size rocket motors has been under way at Hu-ho-hao-t'e since the late 1960s. The rate of static testing appears slow and there is as yet no evidence that any solid-propellant missiles have been flight-tested. This slow progress may reflect a fairly long developmental timetable, at least by US standards. The Chinese may also have run into technical problems along the way. In any case, the Chinese have been working sufficiently long at Hu-ho-hao-t'e on large rocket motors to suggest that flight testing of a solid-propellant SLBM, as well as similar systems for use in the land-based missile program, could begin in the near future.

The Submarine-Launched Ballistic Missile Program^{*}

The Missile

28. China's submarine-launched ballistic missile program made progress during the past year. Although flight testing of the missile has not yet begun, testing of a missile ejection or launch-assist device installed in China's G-class test-platform submarine probably has occurred since October 1972 in the Lu-shun area.

^{*} For the position of the Director of Naval Intelligence, see the footnote on page 6.

30. On the basis of this evidence it is estimated that the first-generation Chinese SLBM will be a two-stage, solid-propellant system comparable in size to the early US Polaris and the French M-1 missiles.

The Chinese SLBM almost certainly will have only a soft target capability.

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Estimated Performance and Characteristics of
the Chinese Submarine-Launched Ballistic Missile

Configuration	Two stage
Length	
Diameter	
Propellants	Solid

The Submarine

31. The Chinese probably intend to install their SLBM in a submarine with nuclear propulsion. China has designed and built at Hu-lu-tao a modern attack submarine, the Han class, which is probably nuclear powered. Its appearance in 1971 showed the Chinese have developed techniques for designing and building modern submarine hulls suitable for nuclear propulsion. There still is uncertainty, however, about China's success in developing a reliable nuclear propulsion system suitable for an SSBN. The Han apparently had propulsion difficulties which caused it to be returned to the shipyard for more than a year. If indeed it is nuclear powered, trouble-free operations over a longer period are needed to indicate a successful system.

32. China has adequate facilities for the assembly of SSBNs. There are at least five and possibly 11 building positions suitable for the assembly of large-diameter hulls in the construction hall at the Hu-lu-tao shipyard and two at the Kuang-chi shipyard.

Assuming that assembly of the lead SSBN takes about three or four years on the building ways, it is possible that an SSBN will be launched at Hu-lu-tao in 1974 or 1975. The construction hall at Kuang-chi is now finished, but the Chinese are not likely to launch a submarine there until late in the decade.

The System

33. It is still too early to determine with much confidence when China's first SLBM system will attain an operational capability. The pacing factor could well be the missile development effort. There is no evidence that SLBM flight testing has actually begun, but such firings could now be fairly near at hand. This testing is expected to be conducted from land-based facilities prior to any launches from a submarine. Initial launches are expected to occur from well-instrumented rangeheads such as Shuang-ch'eng'tzu or Wu-chai, especially in view of China's lack of experience in the solid-propellant area. After land-based flight tests, the G-class test submarine probably will participate in the flight test program.

34. A flight test program for an SLBM probably will take at least three years to complete, even if it is relatively trouble free. Therefore, if test firings begin soon, the missile is still unlikely to be ready for system integration with the first operational SSBN before about mid-1977. Allowing for a minimum of six months for full integration of the missile and submarine, the earliest IOC date would be 1978.* But, in view of the relatively lengthy flight test programs observed for land-based liquid-propellant systems and China's lack of experience in the flight testing of solid-propellant systems, IOC might be considerably later.

*For the position of the Director of Naval Intelligence, see the footnote on page 6.

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35. Thus far, there has been no evidence in China's oceanographic or geodetic activities to suggest a significant effort to support a ballistic missile submarine program. Over the past three or four years, however, some changes in Chinese marine programs have suggested the beginning of an effort to develop submarine operating areas or missile test ranges through acquisition of detailed gravity data and seabottom characteristics over an increasingly broader sea area. Neither of the areas surveyed in detail—east of Shanghai and off south China—would substantially increase the target coverage already available to land-based missiles deployed on the mainland.

The Bomber Force

The TU-16 Strategic Bomber

36. Production of TU-16 jet medium bombers was suspended at least temporarily in 1973. The rate of production had declined from a high of about two aircraft per month in 1971 to a rate of one per month in 1972. It is too early to determine whether production will resume. If the suspension is permanent, the TU-16 may be the victim of a decision to limit investment in strategic weapons or a part of the overall cutback in aircraft production since late 1971.

Estimated Performance of the TU-16 Badger*

Load (pounds)	Combat radius (nm)
3,300	1,750
6,600	1,650
10,000	1,550

*The Chinese do not now have an aerial refueling capability. Their TU-16 is configured for refueling in flight but the Chinese have only one tanker, and there is no evidence that they are building tankers or practicing mid-air refueling.

37. About 60 TU-16s are currently operational at four bases, Wu-kung and Kung-ho in north-central China and Ta-t'ung and Sha-ho closer to Peking. (See Figure 7.) TU-16s have long been used in the nuclear testing program, and the entire force is considered capable of delivering any nuclear bomb in the Chinese inventory. The three TU-16s on the naval air force base at Sha-ho appear to have a maritime role and presumably also would be available for nuclear delivery.

38. The primary mission of the 18 TU-16s based at Ta-t'ung is not clear. They may have been based there temporarily pending completion of a new airfield at Wen-shui about 175 nm southwest of Peking. That airfield will have aircraft storage tunnels of a type built at Kung-ho and parking facilities typical of those at TU-16 bases. This suggests a plan in which almost all TU-16s would eventually be incorporated into a single force with a strategic nuclear attack mission and consisting of three elements, one each at Wu-kung, Kung-ho, and Wen-shui.

39. Alternatively, the TU-16s at Ta-t'ung might have a primary mission of conventional bombing, adding a longer range element to the conventional force. They would, however, retain a secondary mission of strategic nuclear attack. The absorption of the TU-16s into existing IL-28 regiments at Ta-t'ung instead of maintaining separate unit integrity supports this analysis.

40. Suspension of TU-16 production and the possible assignment of about a third of the force to a conventional bombing unit could

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Figure 7

Strategic Missile and Bomber Deployment and Related Facilities:



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reflect a change in China's view of the utility of the TU-16 nuclear bomber force. Although China's original goal for the TU-16 force is unknown, a force much larger than the 50-60 aircraft now available would be necessary to penetrate to more than a few targets protected by modern air defenses such as those of the Soviet Union. There is no evidence of development of a follow-on bomber or a modification program to improve the TU-16's capabilities, but a future air-to-surface missile (ASM) program remains a possibility.

41. The TU-16 force may have been intended only to provide an interim capability for nuclear strikes at greater ranges than the first Chinese missiles could achieve. Deliveries of TU-16s to Ta-t'ung, for a possible conventional role, began in mid-1971, about the time that the CSS-2 IRBM—with range and payload comparable to the TU-16—reached IOC. Even if the TU-16 force does not grow in the future, the Chinese might elect to build tanker versions of the aircraft, or to configure some existing TU-16s as tankers. China obtained one such TU-16 from the Soviets in 1959, but has not built any. Tankers would allow the Chinese to extend the combat radius of the existing force and to use more advantageous attack profiles.

The IL-28 Light Bomber

42. The IL-28 is an old and vulnerable bomber but China still appears to consider it an important weapon system.

Estimated Performance of the IL-28 Beagle

<u>Load (pounds)</u>	<u>Combat radius (nm)</u>
2,200	570
.....	About 500

43. As yet, there is no evidence that operational units are being trained or equipped for a nuclear delivery role. There are about 100 airfields in China from which IL-28s could operate, and redeployment or staging from those airfields closest to the border would permit strategic operations against substantial portions of the Soviet Union, all of South Korea, and parts of South Vietnam and India. The limited range of the aircraft suggests that it might also be used in a theater support role within China. If it is to be used in that role, a weapon with a yield lower than the device tested in 1973 would be desirable.

The F-9

44. China currently has some 300 operational F-9 fighter-bombers, almost all of them assigned to ground attack units. The F-9 can carry a payload of some 2,200 pounds to a radius of nearly 450 nm, using external fuel. These capabilities are consistent with possible use in a theater nuclear role. The F-9 is the most likely aircraft in China's current operational inventory to receive tactical nuclear weapons. There is no convincing evidence, however, that the aircraft now has a nuclear capability.

The Nuclear Weapons Program

Nuclear Testing and Weapons Development

45. Developments since late 1972 indicate that there may have been some shifting of pri-

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orities in China's nuclear weapons test program for the purpose of developing a weapon for delivery by the IL-28 light bomber against strategic targets.

Future Availability of Nuclear Weapons

49. China's capacity to produce fissionable materials is expanding. Construction is proceeding at its second gaseous diffusion plant, at Chin-kou-bo, and it is likely that this plant will become fully operational sometime in 1975. The Kuang-yuan plutonium reactor is continuing its cooling system tests prior to startup and should begin producing later this

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year, and the new nuclear weapons fabrication complex at Tzu-t'ung is now complete and active. China's older nuclear sites appear to be active, and some are undergoing modest expansion. (See Figure 8.)

50. China's capacity for production of nuclear materials is roughly comparable to that of France. It is quite small compared to that of the US and USSR. Upon completion of the new production facilities in Szechwan China's annual U-235 capacity will be less than 10 percent of that of the Soviet Union, and its annual plutonium equivalent capacity no more than 15 percent of that of the Soviet Union. In terms of cumulative amounts, the Chinese stockpile is a small fraction of the Soviet and US stockpiles.

51. The future growth of the Chinese nuclear weapons stockpile will be governed not only by the availability of fissionable materials but also by the design of the nuclear weapons in the stockpile. Continued production of the type of weapons estimated now to be in stockpile—all of which use relatively large amounts of U-235—would minimize the size of the stockpile. At the same time, this would leave unused a growing surplus of plutonium, which could be used for additional weapons requiring less U-235 and more plutonium. If the Chinese were to continue to produce their current weapons and use the remaining plutonium for all-plutonium fission weapons, their future stockpile would include the all-plutonium weapons

A future stockpile combination of thermonuclear weapons with lesser amounts of U-235, composite fission weapons, and all-plutonium fission weapons would, however, appear more likely.

52. The Chinese could have many uses for the potentially large number of plutonium fission weapons that might be included in their stockpile by the end of this decade. In the light of their generally defensive posture, they might well stockpile low-yield fission weapons for tactical delivery by IL-28s, or F-9s, or for tactical missile systems that might be available by then. Other weapons for which they might want a nuclear capability include coastal defense missiles, depth charges, and quite possibly, atomic demolition munitions. There is, however, no specific evidence that they intend to develop a capability in these areas.

III. CHINA'S NUCLEAR ATTACK CAPABILITY

Forces and Capabilities

53. The Chinese now have a capability for nuclear strikes by missiles and bombers all around the periphery of China at distances up to 1,650 nmi. (See Figure 9.) While most

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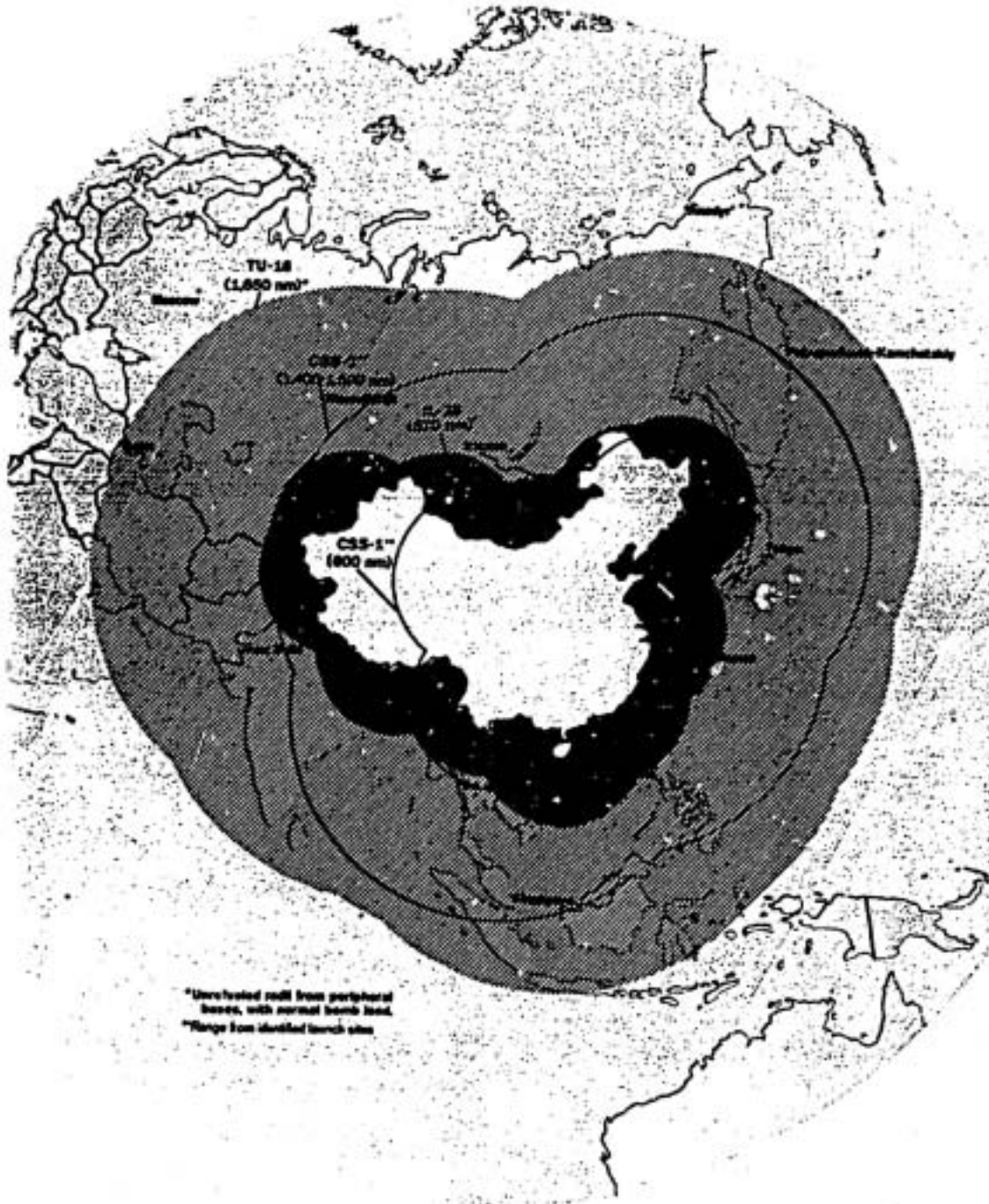
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Figure 9

Approximate Coverage of China's Present Strategic Nuclear Delivery Systems



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of this capability has a strategic orientation, some of it is intended for a theater support role, including use within China's borders. At the present time, the Chinese are estimated to have operational:

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— some 80 TU-16 Badger jet medium bombers, with an operating radius of 1,850 nm, deployed at four airfields. Although all of the force could be used for delivery of fission and thermonuclear bombs, about a third of this force might have conventional bomb delivery as its primary mission.

— a few of China's more than 400 IL-28 Beagle jet light bombers, with an operating radius of 570 nm, also may have a nuclear delivery capability.

The Chinese probably have enough nuclear warheads to equip all of the missiles, but it

may be that so far only some of the TU-16s and only a very few of the IL-28s have actually been allocated nuclear weapons.

54. Presently deployed Chinese missiles have a capability to strike all US bases and allies on the periphery of China. Launch sites for the CSS-1 and CSS-2 are grouped opposite South Korea and Japan, opposite Taiwan and Okinawa, and opposite the Philippines and Southeast Asia. While the CSS-1 covers only targets in the immediate area, CSS-2s are located so that the ones opposite Taiwan can cover Korea and much of Southeast Asia, and those opposite Korea and Indochina can cover Taiwan. The TU-16 bomber could cover all of these areas, as well as reconnoiter and attack US naval forces in the western Pacific. IL-28s could reach targets in Korea and Taiwan and, with staging from points close to the border, northern Luzon in the Philippines and nearly half of South Vietnam.

55. Most of China's presently deployed missiles can strike targets within the USSR. A number of CSS-1s in north and northeast China can hit the Soviet Union, including major bases and populated areas such as Vladivostok and Ussuriysk, and all the CSS-2s except a handful in southwest China can reach some part of southern Siberia and the Soviet Far East. The TU-16s have the range to reach targets in the USSR as far as the Urals from forward bases in China, though their capabilities to penetrate to heavily defended areas are limited. IL-28s could attack targets closer to the border.

56. A token capability to strike Soviet targets at greater ranges may be acquired, possibly by late 1974 or, more likely, in 1975. By then the Chinese may have completed two of the three silos under construction in central China and installed CSS-X-3 missiles in them.

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the CSS-X-3 has an estimated range of 3,000 to 3,500 nm. While the missile possibly could reach Moscow from two of the three silos, the missile could not reach any part of the US except a small part of Alaska. It could, however, reach several US bases in the central Pacific, including Guam. There is no evidence of preparations for deployment beyond the three silos now under construction.

57. The Chinese have no capability to attack the continental US directly and are unlikely to attain one for at least several years. The CSS-X-4 could not be operational until 1977 at the earliest. And an SSBN system will probably not be operational until 1978 at the earliest.¹⁸ The Chinese do not seem to be pushing either of these programs with any particular urgency, and even if no technical difficulties develop, the actual IOC's of these systems are likely to be at least a year or more beyond these dates unless the pace of development increases markedly.

¹⁸ For the position of the Director of Naval Intelligence, Department of the Navy, see the footnote on page 6.

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Strategy Underlying Deployment

64. The exigencies of China's security requirements have changed drastically over the years. Begun with Soviet assistance, the Chinese strategic program at first was predicated on the idea that the US was the main enemy. This probably held more or less true until the mid-1960s. But as Sino-Soviet relations worsened to the point where large Soviet forces were positioned on the border and bloody border clashes erupted in 1969, the Soviet Union became the chief threat. Chinese leaders make this fact clear by their frequently expressed concerns about Soviet intentions and by the thrust of their international policy.

65. To date, however, the deployment of Chinese strategic forces shows no overriding concentration on the Soviet threat. In part this is probably a reflection of the fact that a substantial part of the construction and other preparations for presently identified deployment was begun before Peking's perception of the threat shifted. The Chinese may also have feared that an obvious and extensive reaction to the Soviet threat would have been

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dangerous during a period of high tension. Still, in the several years since the Soviet threat became uppermost, there is no evidence of a resulting change in the pattern of deployment. The most recently started fixed missile launch sites are at Lien-k'eng-wang, where CSS-2s are optimally located for hitting both the USSR and US bases in Asia. Within the past two years, other CSS-2s have continued to be deployed at fixed sites in southwest China where they can reach US bases and India, but not the USSR. Thus it appears that the Chinese deployment programs have been influenced less by a particular threat and more by a general determination to develop a strike capability around the entire periphery of China.¹¹

66. The Chinese have shown that they consider survivability to be crucial to the effectiveness of their nuclear deterrent. They have attempted to achieve survivability through a combination of concealment, mobility, and hardening. Currently operational missile units are deployed in a semimobile mode, moving from garrisons to temporarily occupied, inconspicuous field sites, and at fixed soft sites with tunnels to protect missiles and essential equipment but with unprotected launch pads.

¹¹ The Assistant Chief of Staff for Intelligence, Department of the Army, and the Assistant Chief of Staff, Intelligence, Department of the Air Force, disagree with paragraphs 64 and 65. They believe that the Soviet Union had replaced the US as China's primary strategic adversary well before the mid-1960s. They believe that all MRBM, IRBM, and TU-16 deployment has taken place during a period of primary concern for defense against Soviet attack. Present deployment patterns should be viewed not as an attempt to simultaneously threaten every potential adversary, but rather as an attempt to provide for a moderate amount of targeting flexibility while still deploying virtually every operational delivery vehicle against the threat of Soviet attack.

Concealment and camouflage are extensively employed at these launch areas. The protection from nuclear and conventional blast provided by the tunnels cannot be confidently estimated.

67. The Chinese are making some provision for survivability of their bomber force. They have dispersal airfields and have constructed tunnels for the protection of bombers at one of four existing TU-16 bases and at another base under construction. However, the force does not appear to have an operational alert system or an adequate warning system to enable aircraft to disperse on short notice. In the case of the IL-28s, the Chinese may be counting on the size and dispersion of the force to complicate enemy targeting.

68. Since 1971 the Chinese have not begun construction of any additional fixed missile sites. They may believe mobility, whenever feasible, offers a better probability that missiles would survive an attack than does deploying them at fixed sites subject to multiple coverage by many enemy weapons. While about 10 fixed sites for the CSS-2 are still under construction, there are indications that further deployment of the system may be in the semimobile mode.

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and that some units, deep in their tunnels, could survive a Soviet nuclear attack. They may also believe that the Soviets could not count on destroying all of the nuclear delivery elements of the widespread Chinese bomber force. Consequently, the Chinese probably believe they now have acquired a modest but nonetheless credible nuclear retaliatory capability against the USSR.

72. But the Chinese no doubt feel that their deterrent force remains vulnerable in important respects:

— They have no effective means of detecting the approach of hostile ballistic missiles. They are working on a phased-array radar northwest of Peking that should provide some warning of attacks from most Soviet ICBM complexes. However, the short flight time of missiles launched from the Soviet Union would limit the amount of warning possible, and Soviet missile complexes in eastern Siberia are outside the radar's coverage.

— Missile force reaction times would range from less than an hour to several hours, depending on the system involved and its readiness condition.

73. Even a limited capacity for nuclear retaliation represents a major gain for a country which confronts powerful adversaries. Nevertheless, China might well judge that its present ability to deter nuclear attack by the Soviet Union or the US through the threat

71. How Peking judges Soviet ability to pinpoint all Chinese missile launchers is not known; the Chinese might, conservatively, overestimate Soviet abilities to locate missile sites. Even so, they probably believe that some of their semimobile units could not be targeted

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of retaliation posed by its nuclear strike force would be marginal if the stakes were high.

- a. In the case of the *Soviet Union*, China's ability to deter nuclear attack would rest on Soviet fears for the security of some few cities in Siberia and the Soviet Far East, and perhaps on Soviet uncertainty about the existence of IRBM deployments in western China which might bring some cities in the Urals into range. China has no capability at present to threaten targets in the USSR west of the Urals, though it may soon acquire a token capability with the CSS-X-3.
- b. In the case of the *United States*, China's ability to deter nuclear attack would rest on US fears for the security of a few US bases and cities of allies in the Far East. Although with the CSS-X-3 the Chinese could strike part of Alaska, the Chinese have no near-term prospect for a nuclear strike capability against the continental United States.

74. The Chinese have increased their options for deterring nuclear attack at the tactical end of the nuclear strike spectrum by establishing a capability to attack enemy targets on Chinese territory with nuclear weapons. This capability is probably intended both to deter an invading force and to provide an option to respond in a limited way to tactical use of nuclear weapons by an enemy without risking the political and military consequences of attacking targets on foreign soil.

IV. FUTURE FORCES

75. The current status of development and deployment programs permits reasonably confident estimates of the composition and size of China's nuclear delivery force within the

next two years or so. Through at least 1976 the force will consist of some 40 short- and medium-range missiles and, by that year, the Chinese will probably have about 50 CSS-2s and a few CSS-X-3s in operational silos. As for bombers, most if not all of China's 60 TU-16s and a small fraction of its more than 400 IL-28s probably will have a strategic attack role. The total number of aircraft of these types probably will not increase much but that portion of the IL-28 force configured to deliver nuclear weapons probably will grow slowly, as will the number of nuclear weapons available for delivery.

76. An estimate of longer term prospects must take into consideration:

- that the CSS-X-4 and SLBM intercontinental systems still have major technical hurdles to surmount in their development programs before they can achieve IOC.
- that, by comparison with the US and Soviet programs, Chinese advanced weapon programs represent a small effort and slow progress.
- that the pace of the effort has been slowed further by Chinese decisions to adjust priorities in favor of building the economic base of the country.
- that Chinese judgments about priorities may have been influenced by a reappraisal of what was strategically feasible in the near term, and reinforced by their perception of a changed relationship among the US, USSR, and China.
- that, because of fundamental deficiencies in technical manpower and resources, China's ability to speed up its advanced weapons effort is limited.

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— that, nevertheless, the Chinese advanced weapons effort has ambitious long-term goals, as evidenced by the extensive facilities that have been established for the development and production of nuclear weapons and liquid- and solid-propellant missiles.

77. The scale and variety of the nuclear and missile development and production facilities that China has established indicate that its ultimate objective is to build a strategic nuclear capability befitting a major power. This is suggested by the breadth of the Chinese effort, which includes all the elements of a balanced strategic capability, as much as by its size. There is no reason to believe, however, that Peking aspires to match the capabilities of US and Soviet nuclear forces.

78. Subject to the constraining influences enumerated above, China's present objective probably is still to obtain a token nuclear capability to strike the USSR west of the Urals and the continental US. It is possible, however, that the Chinese will not carry out even this limited objective within the period of this estimate. For example, the Chinese might conclude that the present strategic environment requires an ICBM threat against the western USSR, but not a comparable capability against the US. In such a case, they might deliberately forego deploying a full-range ICBM, while continuing to use their large ICBM booster as a space launch vehicle and building a few SSBNs.

79. But their gradual past progress and the evidence of more ambitious longer term goals make it almost certain that the Chinese will work toward a force of nuclear delivery vehicles that, because of its size and survival

bility, will be a stronger deterrent to nuclear attack by either the US or the USSR. It is also reasonable to expect that China will seek to improve and somewhat expand its regional and tactical nuclear capability both to strengthen its regional deterrent and to increase its options for responding to limited nuclear attack.

80. In pursuing these objectives, it is not yet clear whether the Chinese will concentrate on liquid- or solid-propellant missile systems, or employ both; whether they will continue to emphasize systems suitable for a regional force, or stress their program to develop an intercontinental capability; or whether, to enhance force survivability, they will concentrate on missile systems suitable for semimobile or mobile deployment, or on systems relying on hardened facilities. The success of R&D efforts currently under way probably will have an important bearing on these decisions.

81. Guided by these considerations, two illustrative force mixes for the period mid-1974 through mid-1980 have been projected (see next two pages).

— The first (*Case A*) assumes continuation of present gradual deployment trends and eventual success with current development programs for an ICBM and an SSBN system. It assumes that continued slow progress with the CSS-X-4 ICBM might cause Peking to move ahead with some further deployment of the CSS-X-3. It also postulates that by the end of the decade the Chinese will have developed and will deploy a solid-propellant land-based system in the MRBM/IRBM category.

— The second projection (*Case B*) assumes earlier success with the systems currently

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in development, as well as with follow-on systems, and a somewhat faster rate of deployment. It also assumes that earlier deployment of second-generation systems will affect levels of deployment for the CSS-1 and CSS-2 and that the Chinese will not increase their deployment of the CSS-X-3, particularly in view of the likely availability of the CSS-X-4 to provide coverage of both Soviet and US targets.

Both projections assume that the Chinese will configure a growing number of IL-28s for a nuclear delivery mission and that there will not be a new strategic bomber during the period

of this estimate, although some limited further production of the TU-16 might occur.¹²

¹² The alternative force developments presented here represent possible directions that Chinese strategic attack forces could take. It should be emphasized that no one of them is to be considered an estimate that Chinese strategic attack forces will be composed of the particular weapon systems in the precise numbers listed. They are intended to be illustrative models of possible trends and differing emphases, and are developed primarily for broad policy use at the national level.

Case A: Continuation of Present Trends:

- Gradual Growth of Theater Support and Regional Forces
- Eventual Success with Programs to Develop Intercontinental Systems and Second-Generation Theater Support and Regional Systems

	1974	1975	1976	1977	1978	1979	1980
	(numbers at midyear)						
<u>Land-based missile launchers</u>							
SRBM	10	10	10	10	10	10	8
CSS-1	30	30	30	30	30	30	30
CSS-2	30	40	50	60	60	60	60
Solid MRBM/IRBM						5	10
CSS-X-3		2	3	3-6	3-6	3-12	3-12
CSS-X-4						2	6
SSBNs*						1	2
SLBM launchers						16	32
<u>Bombers*</u>							
TU-16	60	60-70	60-80	60-90	60-90	60-90	60-90
IL-28	3	10	20	30	40	50	50

* For the position of the Director of Naval Intelligence, Department of the Navy, see the footnote on page 6.

* Aircraft available as strategic weapon carriers. During the period of this estimate the Chinese probably will have available fission weapons suitable for tactical delivery by F-9 and IL-28 aircraft.

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Case B: Accelerated Development and Deployment of Intercontinental Systems and Second-Generation Theater Support and Regional Systems.

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
	(numbers at midyear)						
<u>Land-based missile launchers</u>							
SRBM	10	10	10	10	10	10	8
2nd-generation SRBM					5	10	20
CSS-1	30	30	30	30	30	25	20
CSS-2	30	40	50	50	50	50	50
Solid MRBM/IRBM					5	10	20
CSS-X-3		2	3	3	3	3	3
CSS-X-4				2	10	20	30
SSBNs*					1	2	4
SLBM launchers					16	32	64
<u>Bombers*</u>							
TU-16	60	60-70	60-80	60-90	60-90	60-90	60-90
IL-28	3	19	20	40	60	60	60

* For the position of the Director of Naval Intelligence, Department of the Navy, see the footnote on page 6.

* Aircraft available as strategic weapon carriers. During the period of this estimate the Chinese probably will have available fission weapons suitable for tactical delivery by F-9 and IL-28 aircraft.

82. Of the two projections, Case A is believed to approximate the more likely growth of Chinese forces in this decade. It is a better reflection of Chinese performance to date and we have no present basis for projecting any marked changes in this record of performance. IOCs and force levels on the order of those shown for Case B, while requiring more rapid progress and a larger investment of resources, are nevertheless within the bounds of China's capabilities. Both cases take account of what is known today about China's apparent mixed priorities for developing at least some opera-

tional capability to strike targets at various distances, including strategic targets in both the USSR and the US.¹⁴

¹⁴ The Director, Defense Intelligence Agency, believes that there is a third case reflecting a lesser effort, which, although not shown, is just as likely as Case B. Such a projection should be included to reflect the full range of possibilities for China's nuclear forces. The "lower" case judgments are briefly mentioned in the estimate but are not represented here. A third force mix would project a reduced Chinese nuclear capability that concentrated on a more limited force. Intercontinental ballistic missile systems would be sacrificed at the expense of expanding other budgetary sectors.

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83. A great many variations of these cases are possible. For example, success with one weapon system—or failure with another—could lead to a shift of resource allocations to the more successful system to hasten its deployment. In addition, changes in China's perceptions of its strategic requirements or the impact of political and economic influences could affect the pace and scope of the strategic weapons program as a whole. It is not impossible that such influences will result in still another case, involving reduced Chinese effort. For example, as indicated in paragraph 78 above, the Chinese might decide to deploy an ICBM threat against the western USSR but not against the US.

Implications of Future Forces

84. *Capabilities Against the USSR.* If present missile development and deployment trends continue, as projected in Case A, by 1980 China's capability to survive nuclear attack and retaliate against targets in the eastern areas of the Soviet Union will be enhanced somewhat by enlargement of the MRBM and IRBM force from some 60 to about 100 missiles. With the addition of IL-28s to the nuclear strike force, well over 100 bombers are likely to be available as strategic weapons carriers. The first SLBM units will provide an emergency strike capability against targets in the Far East. The small force of about 9-18 ICBMs in silos that China might have by 1980 to threaten targets in European Russia would have little prospect of surviving a Soviet first strike and thus would have limited deterrent value. All things considered, however, China will have somewhat improved its capability to deter nuclear attack by the USSR.

85. In the less likely event that the Chinese make the accelerated progress in the devel-

opment of intercontinental systems and second-generation regional missile systems indicated by Case B, they could have by 1980 a significant capability to deter nuclear attack by the USSR—a capability that they could feel fairly confident would deter Soviet nuclear attack unless the stakes were very high. Under this force assumption, the ability of China's regional nuclear forces to retaliate following nuclear attack will also have improved markedly. China's regional strike capability would number some 120 land-based missiles, not many more than in Case A but about one-third of them second-generation missiles with somewhat improved survivability and reaction time. The bomber force is unlikely to be very different from that of Case A. With some four SSBNs operational, China would be able to maintain one or two missile submarines on continuous patrol in the North Pacific but not in more distant seas within range of European Russia. This would significantly increase the number of missiles that would likely survive a Soviet first strike and be able to retaliate against Soviet targets in Asia. China also would have about 30 ICBMs in silos, a number probably large enough to make it uncertain in the calculations of Soviet military planners that some would not survive for retaliatory strikes against large populated areas in European Russia.

86. *Capabilities Against the US.* If present trends continue, by 1980 China will have a few, say 6, ICBMs capable of striking the continental US and from time to time probably would be able to place one missile submarine in position to strike targets in the western United States. This force would confer on China for the first time the ability to strike the continental US. This would have considerable political and psychological value. But the ICBM force would be small and

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vulnerable and only the SLBMs would be a survivable retaliatory force, and then only for short periods.

57. Under the less likely assumption of accelerated progress with the ICBM and SLBM programs, the Chinese by 1960 would have 30 ICBMs and during periods of tension might

be able to keep one or two nuclear missile submarines on patrol in the North Pacific able to strike targets in the western US. The submarines in particular, because of their potential to survive nuclear attack, would significantly strengthen China's deterrent position versus the US.

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THE DIRECTOR OF CENTRAL INTELLIGENCE

16 July 1974

MEMORANDUM FOR THE UNITED STATES INTELLIGENCE BOARD

SUBJECT: Addendum to NIE 13-8-74: CHINA'S STRATEGIC ATTACK PROGRAMS,
13 June 1974

Please add the following sentence to footnote 14 on page 38:
"Such a third force mix will be included in the Defense
Intelligence Projections for Planning."

George A. Carver, Jr.
Deputy for National Intelligence Officers

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