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TS No. 185493-f

## CENTRAL INTELLIGENCE AGENCY

14 December 1962


S/P RECORD COPY

MEMORANDUM FOR THE UNITED STATES INTELLIGENCE BOARD

SUBJECT: SNIE 13-6-62: COMMUNIST CHINA'S NUCLEAR WEAPONS PROGRAM

1. The attached draft estimate has been approved by the Board of National Estimates pursuant to a consideration of it by the USIB representatives.

2. This estimate has been placed on the agenda of the USIB meeting scheduled for 1030, Wednesday, 19 December.

  
Acting Deputy Assistant Director  
National Estimates

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## CENTRAL INTELLIGENCE AGENCY

14 December 1962

SUBJECT: SNIE 13-6-62: COMMUNIST CHINA'S NUCLEAR WEAPONS PROGRAM

## THE PROBLEM

To assess Communist China's progress toward acquisition of a nuclear weapons capability and to estimate certain implications of such a development.

## CONCLUSIONS

A. Previous estimates of the likely date by which the Chinese might be able to conduct a first nuclear test were based on an accumulation of evidence which pointed to a steady pace of advance in the Chinese program. At present, given the absence of any new positive evidence pointing to progress, and some indications of difficulties and delays, we believe that the program has been seriously retarded. The evidence is not now adequate to make a

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*final?*  
 conflict judgment about the likely date of a first nuclear explosion in China. Although it might occur as early as 1963, we believe that it is more likely to occur some years later.<sup>1/</sup>

(Paras. 4, 6)

B. If the Chinese made a high priority effort and were able to acquire key missile components from other countries, they might be able to produce Soviet-designed short-range surface-to-surface ballistic missiles as early as 1964, but they probably could not produce medium-range missiles before the latter part of the decade. They probably could not marry a nuclear warhead with a guided missile system until the late 1960's or early 1970's, depending on the date of initial nuclear testing.<sup>2/</sup> (Paras. 12, 14)

C. We do not believe that the acquisition of a nuclear weapons capability would result in major changes in Peiping's domestic or foreign policies. Internally, it would tend to raise the self-confidence of the party leadership and appeal to the national pride of the general populace. Externally, it would probably increase

 1/ See the representative of the Assistant Chief of Staff, Intelligence, USAF, footnotes at the end of paragraphs 6 and 7 in the DISCUSSION.

2/ See the representative of the Assistant Chief of Staff for Intelligence, Department of the Army footnote at the end of paragraph 14 in the DISCUSSION.

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China's vocal aggressiveness and determination to play a leading role in Asia and in the world Communist movement. We do not, however, believe that the Chinese acquisition of a limited nuclear capability will significantly alter its willingness to take military risks or that it would lead to a general policy of open military aggression.

(Paras. 16-26)

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## DISCUSSION

## I. CURRENT STATUS OF CHINESE ADVANCED WEAPONS PROGRAM\*

1. The Chinese nuclear and missile programs must have been seriously affected by the withdrawal of Soviet technical assistance in mid-1960 and by setbacks to Chinese technological development resulting from the general economic decline of recent years. Over the past two years drastic cutbacks in industrial production and shortages of foreign exchange for industrial imports probably have compounded the problems involved in acquiring the high quality machinery, equipment, and instruments required for these programs. Even in the absence of any other evidence it would be a fair inference that these factors had had a retarding effect on the Chinese effort to acquire advanced weapons.

Nuclear Weapons2.   


\* This paper reviews in summary form some recent evidence and certain basic judgments. For a fuller treatment of the subject see NIE 13-2-62, "Chinese Communist Advanced Weapons Capability," dated 25 April 1962; NIE 13-2-60, "The Chinese Communist Atomic Energy Program," dated 13 December 1960 (Limited Distribution).

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3. Nevertheless, there are some indications that Peiping is continuing activities aimed at developing an atomic energy program of some size. There is firm evidence of continued uranium prospecting, mining, and concentrating activities. Recent official statements have reiterated that China is making a determined effort to develop nuclear weapons. Moreover, the scale of preparatory activities described in previous estimates makes it unlikely that China,

\* The areas most likely on the basis of other evidence to contain such facilities have been covered in photography. There are still a number of areas (e.g., the Szechwan basin) theoretically suitable for a production reactor in terms of logistics, security, availability of electric power, and water flow which have not been photographed. No positive indications of any kind point to the actual existence of such facilities in these areas. We believe that the chances are better than even that if such facilities existed in China, we would have acquired knowledge of them.

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despite its shrunken industrial base and technological deficiencies, would not do what it could to press forward a nuclear weapons program. It is possible that the Chinese have simply postponed plans to build the large industrial facilities necessary to develop a full-scale program at an early date, and are now channeling scarce resources into a stretched out and perhaps a smaller program.

4. Previous estimates of the likely date by which the Chinese might be able to conduct a first nuclear test were based on an accumulation of evidence which gave some sense of the pace of the Chinese program. At present, given the absence of any new positive evidence pointing to progress, any estimate of such a date is necessarily marked by great uncertainty. On the one hand, the Chinese Communist leadership continues to have strong reasons -- to restore its diminished prestige with the Chinese people, to press its struggle for equality with the USSR in the Bloc, and generally to forward its external objectives -- for wishing to achieve a nuclear explosion at the earliest possible date. On the other hand, the scale of Soviet assistance is a key factor governing the pace of the Chinese program, and with Sino-Soviet relations now in a worse state than ever before, a renewal of Soviet assistance appears unlikely for some time to come. Further, the rate of advance of Chinese technology is an uncertain factor, although we believe that the Chinese

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can move forward independently on at least a limited nuclear weapons program.

5. We still cannot exclude the possibility that the Chinese Communists could achieve an initial nuclear detonation in the 1963-1964 period. However, this possibility has to be based on several premises which are open to question. To support it, it is necessary to postulate that Peiping has been conducting a very high priority program aimed at the earliest possible nuclear detonation, that this program is being carried out despite China's severe economic troubles, and that without Soviet assistance the Chinese technical capabilities have proved adequate. Moreover, it is necessary to assume that the Chinese were able to put into production early in 1961 the uranium metal plant which was nearing completion in mid-1960 when the Soviet technicians were withdrawn. Finally, it is necessary to assume the existence in China of a plutonium production reactor and a chemical separation plant, [REDACTED]

6. It appears to us likely that the Chinese encountered delays and difficulties in putting the uranium metal plant into operation after the Soviet withdrawal. More important, the Chinese would probably have experienced even more serious delays in subsequent stages

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of the plutonium production process. (The French experienced serious delays in solving problems in the chemical separation process.) The evidence is not now adequate to make a confident judgment about the likely date of a first nuclear test in China. Although it might occur as early as 1963, we believe that it is more likely to occur some years later.\*

7. The development of a significant weapons capability after an early first explosion based on a small-scale program (e.g., one 200 megawatt reactor) would require considerable time. Within a year after any test a few fairly crude fission weapons could probably be produced. It would take about four to five years longer to produce, say, 30 nominal-yield fission weapons. If the first test occurs later in the decade, the Chinese may have the larger production facilities and greater numbers of skilled personnel which would enable them to move more rapidly toward acquisition of a significant weapons

\* The representative of the Assistant Chief of Staff, Intelligence, USAF, believes that the Chinese Communists are likely to conduct their first nuclear test in 1963-1964. They have accorded a very high priority to the development of nuclear weapons and that they probably regard an advanced weapons capability as a political and military necessity if they are to achieve the international status they seek. He also believes that sufficient economic and scientific resources are available to the Chinese Communists to support a few, very high priority projects. He recognizes that the Soviets withdrew support from the Chinese nuclear weapons program in 1959-1960 and that this has significantly retarded the progress of the Chinese

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capability. Even if the Chinese exploded a fission device by 1963-1964, they probably would not acquire a thermonuclear capability until after the end of the decade.\*

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(Footnote continued from previous page.)

Communists weapons program in certain areas. Nevertheless, he considers it likely that sufficient technical and industrial resources are available and are being funneled into the Chinese Communist atomic energy program on a sufficient priority to permit them to have put a plutonium reactor into operation, contrary to the judgment made in paragraph 2, and to produce sufficient fissionable material for the test of an all-plutonium implosion nuclear device some time in 1963-1964.

- \* The representative of the Assistant Chief of Staff, Intelligence, USAF, believes that if the Chinese detonate their first device in the next year or so, it would be within their capabilities to develop and test a thermonuclear device by the end of the decade. Such a device probably would be extremely heavy, and would represent only a token thermonuclear capability. Even such a limited thermonuclear capability would go far to establish China as a great power and would have profound psychological impact, particularly in Asia.

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~~TOP SECRET~~Missile Delivery Capabilities

8. Such evidence as we have suggests that Communist China's progress toward acquiring a nuclear weapons delivery capability with missiles has been very slow since the general withdrawal of Soviet technicians in mid-1960. By that time construction of the Shuanghengtzu Missile Test Range, begun in 1958, had progressed to the point that initial firings could have begun for purposes of checking out the missile facilities and range instrumentation, and for orientation of Chinese personnel. There is no reliable evidence which makes it possible to assign a date at which actual flight-test firings for research and development might have begun, but we do not believe that these could have occurred much before the end of 1961. We believe that some firing has occurred in 1962, but the rate of firing can at most only have been sporadic and limited. Whatever flight tests have been conducted have probably utilized missiles of Soviet design in the ranges from 150 nautical miles (n.m.) to 1,100 n.m.

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[REDACTED]

[REDACTED] We infer from this evidence that the Chinese program has at least been delayed and possibly reduced in scale. Nevertheless, it also indicates that the Chinese intend to complete a major test facility.

10. [REDACTED]

[REDACTED]

[REDACTED] The missile system involved in these sites is apparently one which the Soviets adapted from their AS-1 air-to-surface missile (ASM), which is also being used in Cuban coastal defense missile sites.\*

11. There is still no conclusive evidence that the Chinese possess a missile production facility or that Soviet aid was ever

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~~given specifically to missile production.~~ For the next few years, we do not believe that the Chinese on their own will have either the industrial base or the technological competence to produce certain components of ballistic missile systems. Chinese research and development is probably not yet/<sup>strong</sup>enough to achieve native missile designs. This means that China's future progress toward acquiring a ballistic missile production capability entirely from its own resources is likely to be very slow.

12. Our evidence is insufficient to permit confident estimates on the timing of successive missile developments. For the present it seems unlikely that the Chinese will receive missiles from the USSR. In developing their own production capability for offensive missiles, we believe they would seek first to produce short-range surface-to-surface ballistic missiles. In order to do so at an early date Peiping would need to make a high priority effort to assemble the technical resources and would need to acquire some key components from external sources. If these conditions are met, they might be able to produce Soviet-designed SS-1 (150 n.m.) and SS-2 (350 n.m.) missiles as early as 1964.\* However, they would probably not deploy such missiles in any more than token numbers before they had a compatible nuclear warhead.

\* The areas falling within range of such weapons are shown on the map at Annex.

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13. The Chinese probably could not produce medium-range missiles before the latter part of the decade. To do so they would almost certainly have to use Soviet designs of the 700 n.m. or 1,100 n.m. types. The characteristics of the test range suggest that missiles of such designs were to be provided by the Soviets.

14. Because of the numerous variables in both programs we cannot foresee with exactness just when, in the long run, the Chinese would be able to marry a nuclear warhead with a guided missile system. We believe that the Chinese could not reach such an achievement until the late 1960's, assuming an initial nuclear test in 1963-1964, or the early 1970's if the test does not occur until the latter part of this decade. The Chinese have almost certainly not taken even preliminary steps to develop submarine missile systems, ICBMs, and antimissile systems. The achievement of an independent capability in these more technically advanced fields would require 10 years or more even with some Soviet assistance.\*

\* The representative of the Assistant Chief of Staff for Intelligence, Department of the Army, believes that the limited Chinese Communist industrial base and relatively small numbers of technically competent personnel will prevent their production of any large numbers of ballistic missiles for the next few years. However, he believes this estimate does not give sufficient consideration to the technological capabilities of the Communist Chinese as indicated by the facilities at the Shuang-cheng-tzu Missile Test Center. He believes that the facilities at the Center represent a substantial missile research and development program. Such a program, if given sufficient priority and concentrated on one or two missile systems of either short or medium range type, could provide from native resources a missile delivery capability for a small number of compatible warheads when such warheads become available.

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### Aircraft Delivery Capabilities

15. Because of slow progress toward the acquisition of a guided missile capability the Chinese Communists would, if they succeeded in developing nuclear weapons in the next few years, have to rely on manned aircraft for delivery of such weapons. The Chinese are now estimated to have 325 BEAGLE (IL-28) jet light bombers and two BADGER (TU-16) jet medium bombers. The light bombers would not be able to carry the crude weapons which are likely to be available in the early years of the Chinese program. The Chinese aircraft industry is apparently limited to the production of Soviet jet fighters, small transports, and helicopters, but not late models. We believe that a renewal of Sino-Soviet cooperation will be required before the Chinese will be able to make significant advances toward an operational deployment of a jet medium bomber force. It is unlikely that the Chinese will undertake to develop long-range heavy bombers or that they will obtain such aircraft from the Soviets.

## II. PROBABLE DOMESTIC CONSEQUENCES

16. Communist China's detonation of a nuclear device and subsequent steps toward a nuclear weapons capability would probably have little influence on the character of the regime's domestic programs. For the next few years Peiping is likely to continue its

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present policy of giving highest priority to investment in agriculture and its supporting industries. Within this framework of priorities, the regime will probably be willing to assign resources only for limited programs of advanced weapons development. If the regime succeeds in overcoming the economic decline of recent years, it will probably devote larger resources to such programs. Because of the generally low level of China's technology and the small number of trained personnel available, Chinese progress in such fields would be slow in any case.

17. Communist China's first test explosion and subsequent moves toward a nuclear weapons capability would have important but mixed effects on various sections of the population. The party and government leadership would have renewed confidence in the "correctness" of their policies. The regime would certainly launch a massive propaganda campaign emphasizing that it is making good on its promise to catch up with the West in science and technology. Most Chinese would be intensely proud of the national accomplishment, although some elements might question whether the cost was not related to shortages of food and consumer goods. Nuclear achievements would help restore popular faith in the regime (particularly among cadres and persons already deeply committed to it), but the degree of popular

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support, as manifested in increased production efforts in factory and farm, would depend on many other factors.

### III. MILITARY IMPLICATIONS

18. Chinese Communist military doctrine has denied that nuclear weapons have decisive military significance and we believe that their views in this respect are unlikely to undergo any sudden or radical change. The basic dependence on nonnuclear military tactics and primary reliance on masses of troops will almost certainly continue. However, the acquisition of advanced weapons would stimulate efforts to improve military organization and to develop new tactics and techniques appropriate to nuclear war. It would probably also tend to improve the morale of the Chinese Armed Forces.

19. The Chinese would probably value nuclear weapons primarily for psychological support in exerting pressures short of general war. Even after acquisition of such weapons, we believe that the Chinese would prefer to advance their goal of hegemony in Asia by the use of political pressures, limited border wars, and indirect support to local "wars of liberation." However, possession of nuclear weapons would in Peiping's view probably be of some assistance in weakening the resistance of neighboring countries to Communist insurgency, in

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inhibiting their requests for US assistance or counteraction, and in pressuring them to accede to Chinese demands.

20. Although the regime has publicly emphasized China's ability to survive nuclear attack, it probably genuinely fears such an eventuality. However, Peiping has usually appeared more ready than the Soviet Union to take military risks, or to deny the existence of such risks. We do not believe that the Chinese acquisition of a limited nuclear capability will significantly alter its willingness to take military risks. On its other hand, we believe it would not lead to a general policy of open military aggression.

#### IV. FOREIGN POLICY IMPLICATIONS

21. The acquisition of a nuclear weapons capability by Communist China would not, given the limited character of that capability, alter in the foreseeable future the real relations of military power among the major states. China for many years to come will not be able to approach the nuclear power which the US and USSR can bring to bear even in the Far East. However, the Chinese feat in exploding a nuclear device at all would have a profound impact on many peoples and governments and would alter their sense of what the relations of power

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were or might come to be. The Chinese Communists would, of course, take advantage of this to seek fuller acknowledgment of their claims to pre-eminence in Asia and their status as a world power.

22. Nuclear achievements might from time to time lead Communist China to increase political pressures on its nonaligned Asian neighbors, but probably would not lead to any basic reorientation of policy toward them. Peiping would probably seek, with some success, to blur the distinction between an initial test and full weapons capability in order to build the image of full nuclear power status and scientific leadership. It would exert pressure on neighboring states having military relations with the US, emphasizing the increased danger of such ties. These moves would probably be cautious, however, to avoid arousing fears or resentment among China's neighbors which might alienate or drive them toward the West. Propaganda would be likely to emphasize China's peaceful intentions and the defensive nature of its nuclear capability in contrast with "aggressive US designs" and military bases. The aim of such propagnada and pressure, would be to encourage a Chinese Communist oriented neutralism among Asian states and especially among China's immediate neighbors.

23. Toward the US and its Asian allies, Peiping would probably become more aggressive vocally but it would still be concerned not

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to provoke serious counteraction. It would realize that a nuclear capability in itself was insufficient to remove the US presence from Asia and, on the contrary, might encourage the buildup of US nuclear missiles in South Korea, Japan, and Taiwan. Peiping's propaganda toward Taiwan would seek to exploit fears of nuclear destruction by renewing old propaganda appeals for "peaceful liberation" on the basis of a joint "anti-US" move. However, we believe that the Communists would not attempt any military moves in the Taiwan Strait unless they persuaded themselves that US involvement was unlikely. Because of Japan's great sensitivity to the dangers of nuclear war, we believe Peiping would handle the Japanese with great caution. It would hope to persuade Japan to drop its alliance with the US, but seek to avoid pressing this to the point that the Japanese would consider acquiring nuclear weapons themselves.

24. Communist China has long sought to win world recognition as a great power whose participation was necessary for the successful functioning of international agreements and organizations. It would immediately flaunt any successful nuclear detonation as proof of great power status and would probably calculate that, in time, world opinion would override US objections to China's full participation in international councils. Peiping would almost certainly

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consider that its leverage was increased for entry into the UN on its own terms, terms that would exclude the Republic of China.

25. Peiping has repeatedly warned that China will not be bound by disarmament agreements reached without its participation. The price of participation has been defined as recognition of the Communist regime by all negotiating states and US "evacuation" of Taiwan. As a nuclear power Peiping would expect to use the disarmament issue more effectively to generate international support for its position on Taiwan and for removal of US forces from the Far East. It seems unlikely that the Chinese would be any more favorably disposed toward serious negotiation on disarmament than they are now. They would probably regard any effort to involve them in arms control arrangements as an attempt to deny them equality as a nuclear power.

26. It is probable that the USSR's unwillingness to assist the Chinese in acquiring a nuclear capability was one of the key issues involved in the Sino-Soviet differences of recent years. China's independent acquisition of nuclear weapons would probably tend to prolong and perhaps intensify strains in the relations of the two Communist great powers. Peiping would almost certainly intensify efforts to expand its influence in the world Communist movement,

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advertising its nuclear achievements as further proof of what an underdeveloped nation can do for itself if it follows a course of unflinching struggle and ideological purity. The Soviets, fearing that Chinese possession of nuclear weapons would lead to more adventurist policies, might move toward limiting their military guarantees to China under the Sino-Soviet alliance.

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