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20 August 1970

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MEMORANDUM TO HOLDERS  
NATIONAL INTELLIGENCE ESTIMATE  
NUMBER 13-8/1-69

# Communist China's Strategic Weapons Program

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Concurred in by the

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As indicated overleaf

20 August 1970

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## COMMUNIST CHINA'S STRATEGIC WEAPONS PROGRAM

### NOTE

Since the publication of NIE 13-8/1-69, the Chinese have launched their first earth satellite; they have continued firings of the MRBM; and we have discovered that the Chinese may be well along in the development of a missile system with an IRBM potential.<sup>1</sup>

The purpose of this paper is to present the facts concerning the above developments and to make some preliminary judgments as to their significance

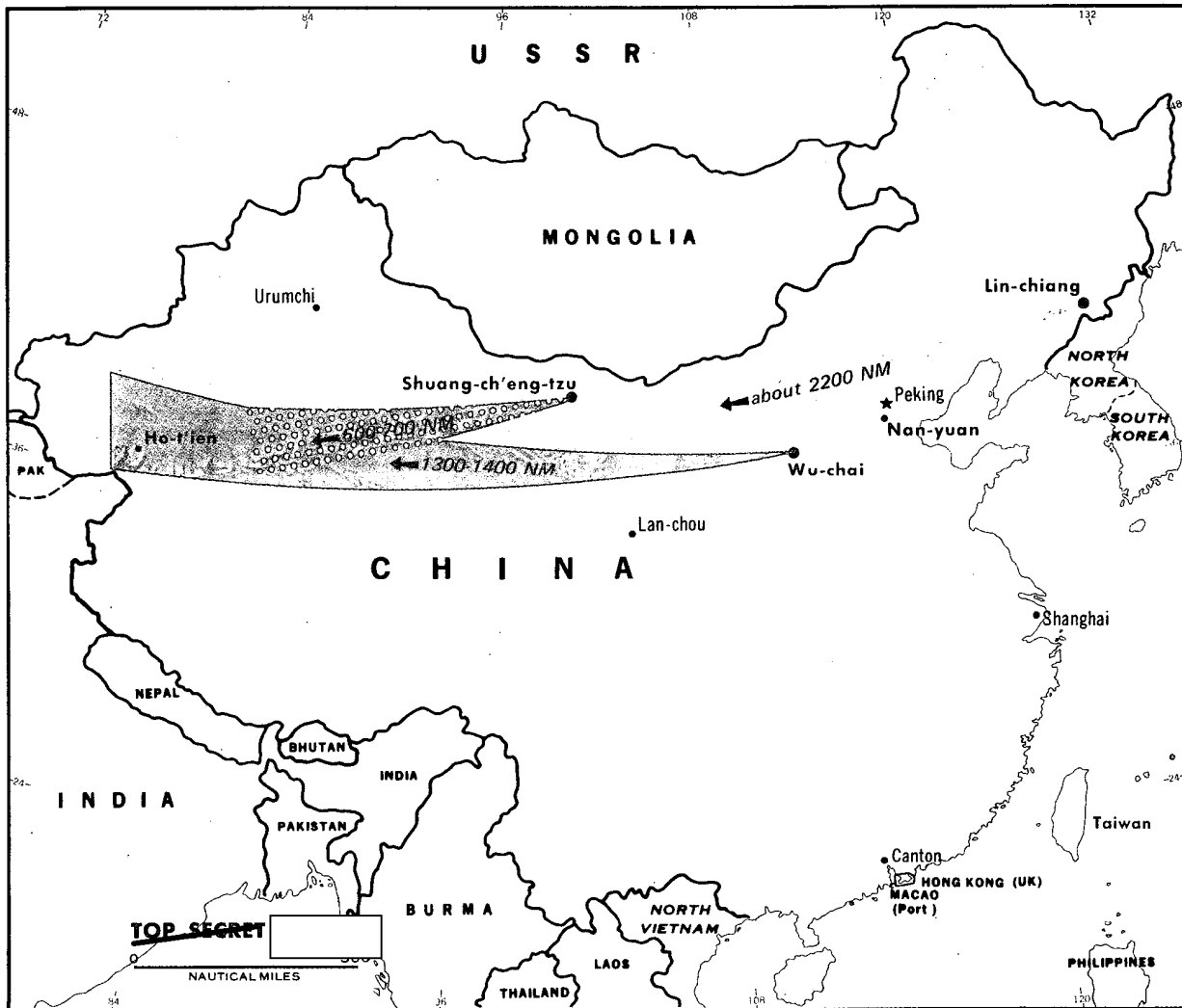
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The new data raise as many questions as they answer with respect to the status of the Chinese strategic missile program. We defer more comprehensive treatment to the next complete NIE 13-8, by which time more data may be available.

<sup>1</sup>The distinction between an MRBM and an IRBM is defined as follows: MRBM—a capability to deliver a re-entry vehicle to ranges of about 600 to 1,500 n.m.; IRBM—a capability to deliver a re-entry vehicle to ranges of about 1,500 to 3,000 n.m.

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### Communist Chinese Missile Facilities



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## THE ESTIMATE

### 1. Briefly, the new developments are these:

a. *The Wu-chai Facility.* In photography of [redacted] 1970, a missile launch facility was discovered near Wu-chai in Shansi Province. Restudy of previous, low resolution photography shows that construction of this facility began in late 1966, that the launch pad was completed by mid-1968, and that missile exercises were underway [redacted]

[redacted] These missile sightings, [redacted] indicate that missile firings from Wu-chai to the general area of Ho-t'ien in far western Sinkiang—some 1,300 n.m. to 1,400 n.m.—began in late 1968. The available evidence indicates that to date at least seven firings have occurred at this site.

b. [redacted]

[redacted] Unfortunately, other characteristics—e.g., whether it has one stage or two—which would have an important bearing on the missile's potential range and payload capabilities have not yet been determined.

c. The Wu-chai installation has a launch pad which is similar to the MRBM pad at Shuang-ch'eng-tzu (see graphic). At present it appears to be an R&D and/or training facility. There is, however, considerable construction still underway in the vicinity, and one construction site two miles to the north has some of the appearances of a launch facility in its early stages. The extent of the construction and the extension of a rail spur to the area indicates the Chinese plan a major complex at Wu-chai.

d. *The Lin-chiang Installation.* Immediately upon discovery of the Wu-chai site, all interpretable photography on China dating back to 1967 was subjected to an intensive review. This search turned up one more probable missile launching site near Lin-chiang, about 30 miles north of the North Korean border. This facility is in the later stage of construction and a recheck of earlier photography showed that work at the site began [redacted]

e. Though we cannot be completely certain at this time, it appears that this is a silo launch facility. There is a rectangular hole in the center of what appears to be a hardstand, and there was a cylindrical object lying nearby which may be a section for a silo liner. A missile transporter-erector similar to ones previously seen only at Wu-chai and at the Nan-yuan missile pro-

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duction plant near Peking was present in photography [redacted] 1970 at a nearby support area.

f. *MRBM Activity at Shuang-ch'eng-tzu.* Meanwhile, there are continuing indications [redacted] of missile firings from the Shuang-ch'eng-tzu rangehead. [redacted] the firings are to the mid-range area—a distance of some 600 to 700 n.m. [redacted]

[redacted]

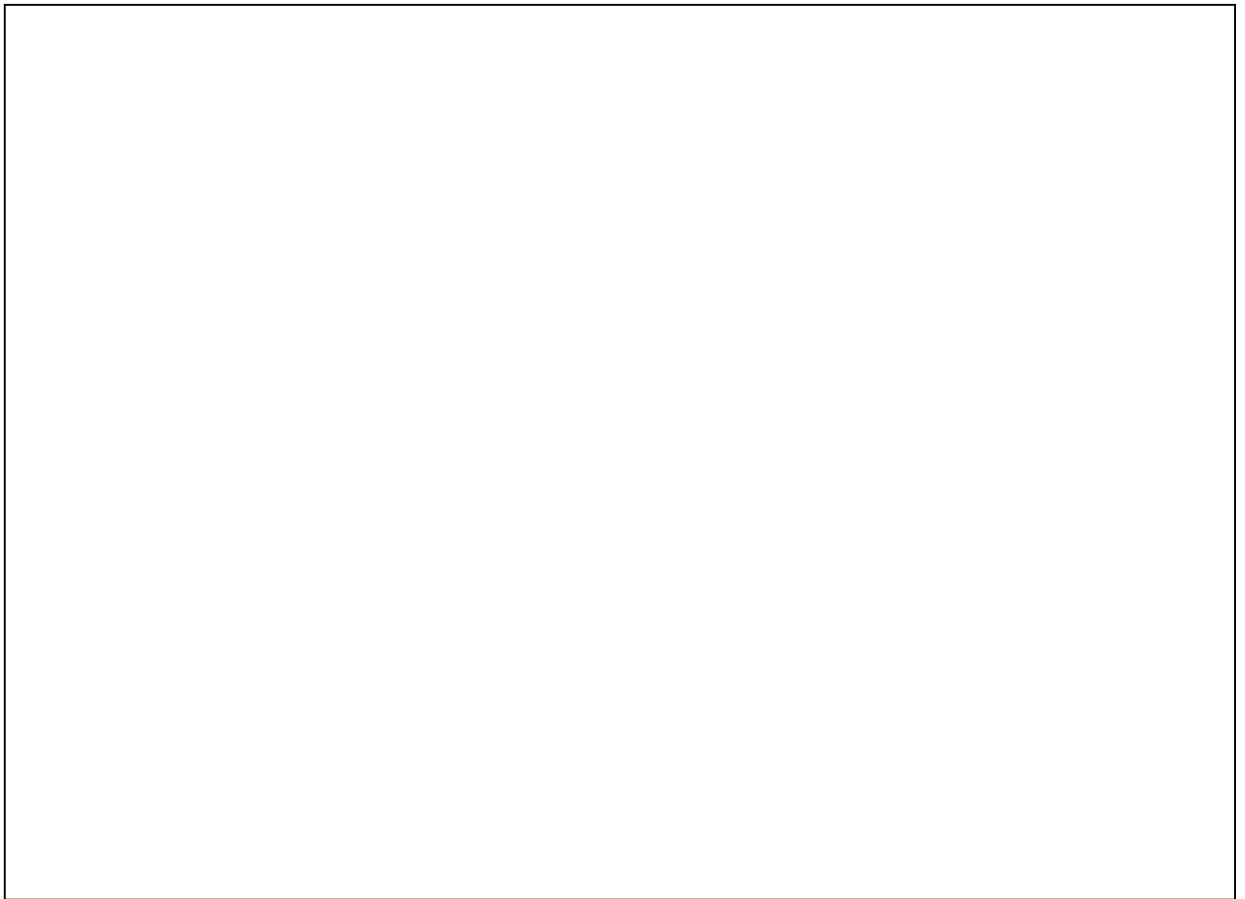
g. *The Chinese Space Program.* On 24 April 1970, the Chinese launched their first earth satellite. It was launched from Shuang-ch'eng-tzu, and there is reasonably good evidence that it was fired from what has been designated Pad B-1 of the large and elaborate "Complex B." The satellite's high, elliptical orbit and the payload weight of 381 pounds announced by the Chinese virtually rule out an MRBM-size booster for this space shot. Among the possible candidates for the launch vehicle are the Wu-chai missile with one or two upper stages, a two-stage ICBM with a small third stage, or even a vehicle developed expressly for space purposes.

h. Work is also progressing rapidly on a second launch pad (Pad B-2) at Complex B. It is equipped with a service tower about 150 feet tall, some 30 feet taller than the one serving Pad B-1. The size and complexity of Pad B-2 indicate that it is designed for launching large space vehicles, and, indeed, suggests that the Chinese have ambitious plans for a space program.

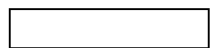
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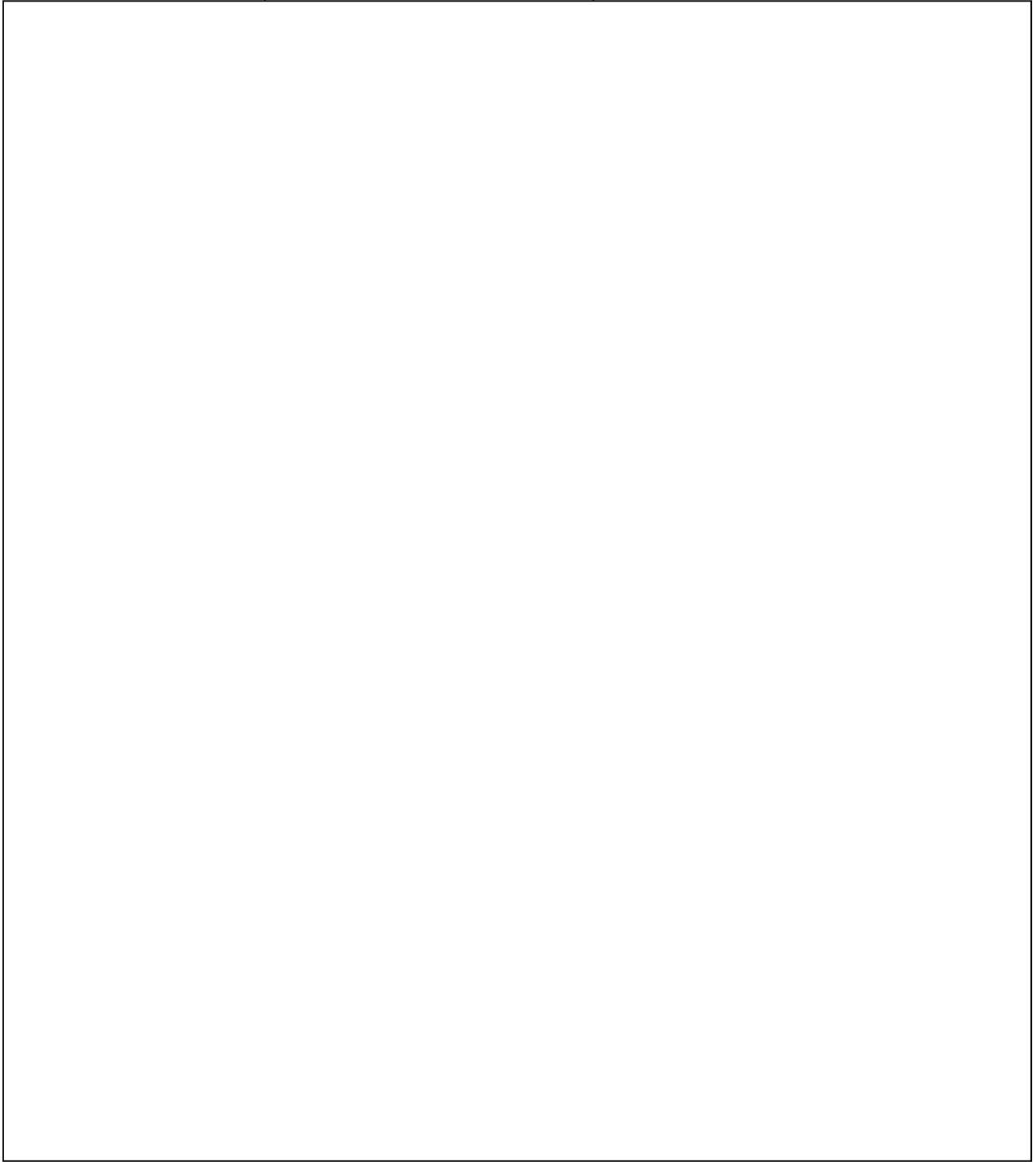
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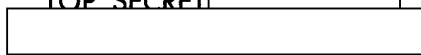
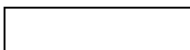
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2. The discovery of the Wu-chai missile program was unexpected; we had estimated previously that the Chinese were concentrating their limited resources on the development of an MRBM and an ICBM. [redacted]

[redacted] Up to late 1966, there was no evidence of firings beyond 600 n.m. to 700 n.m. Between late 1966 and mid-1967, however, some firings appeared to be directed to an impact area some 1,000 n.m. down range in the vicinity of Ho-t'ien. The size of the missile observed since the early 1960s at the MRBM launch facility (Pad A-1) [redacted] [redacted] evidence on firings to Ho-t'ien led to the conclusion that the Chinese MRBM had a range of some 1,000 n.m. [redacted] [redacted] By late 1967 it appeared that this missile was ready for deployment, and failure to detect any such action in 1968 and 1969 was not easily explained.

3. In retrospect, it now seems possible that the missile observed frequently at Pad A at Shuang-ch'eng-tzu never was fired to the 1,000 n.m. distance—that its range is, in fact, limited to about 600 to 700 miles. A re-evaluation of the ground support equipment [redacted] also suggests that this missile uses a cryogenic oxidizer rather than the storable type previously assumed. It is possible that some of the activity that seemed MRBM-oriented was in fact basic missile experimentation and R&D work on the Wu-chai system.

4. In any event, the firings to Ho-t'ien from Shuang-ch'eng-tzu which took place between late 1966 and mid-1967 could have involved early tests of the Wu-chai missile, even though we never identified this missile at Shuang-ch'eng-tzu. The next firings to Ho-t'ien began by December 1968, a time frame corresponding to [redacted] evidence suggesting the initiation of firings at Wu-chai. Going further back in time, we could say that the original design work on the Wu-chai missile must have begun in the early 1960s, either as a separate program or as an off-shoot of ICBM development work.

5. In any case, the more powerful Wu-chai missile would seem to be fairly well in phase with China's nuclear weapons program which has been predominantly directed toward the development of relatively large thermonuclear devices. [redacted]

6. We do not have enough data, however, to be much more precise about the missile's capabilities. [redacted]

[redacted] Thus the following estimates of range and payload capabilities are

highly tentative. [redacted]

7. The Chinese could probably have a thermonuclear weapon compatible with an RV [redacted] within a year and a half or so after a successful weapon test. A single-stage Wu-chai missile [redacted] might reach ranges of 1,600 to 2,000 n.m.; a two-stage system with this RV might reach a range on the order of 3,000 n.m. [redacted]

8. The continuing firings from Shuang-ch'eng-tzu to about 600 to 700 n.m. and the indications that some sort of troop training is involved keeps alive the question as to whether the Chinese also intend to deploy this MRBM system. The troop training aspect raises the possibility that limited deployment might have already occurred without our having detected it. But this would mean that the Chinese had decided to expend scarce resources on deployment of an MRBM system which appears to have much less range/payload capability than the Wu-chai missile.

9. The Lin-chiang facility is particularly puzzling. On the basis of the evidence presently available, the best explanation for this site is that it is an R&D or prototype facility. But this raises the question of why the Chinese chose a location so near an international border and in such difficult terrain (the possible launch silo is atop a ridge line and can be reached only by a single road with several hairpin turns). If it is their aim to achieve near-maximum firing distances within China's borders (it is about 2,200 n.m. from Lin-chiang to the Ho-t'ien impact area), this could have been accomplished by moving a relatively short distance to a more convenient site. On the other hand, it seems unlikely that the Chinese would proceed to build an operational site with a silo without first building a prototype installation and doing considerable experimentation with this more difficult launch technique. The early start of construction (May 1967) and the subsequent slow rate of progress at the Lin-chiang facility also raise doubts about its being a deployed site.

\* \* \* \* \*

10. In sum, the evidence seems increasingly to indicate that the Chinese are well along toward deployment of strategic missiles. We cannot even be certain that the Chinese have not already deployed a few MRBMs. If a major missile deployment program is intended, however, we think the Chinese will give higher priority to the Wu-chai system because of its longer range and greater payload. We still do not know the R&D status of the Wu-chai system. But if it is nearing completion, as seems possible, initial operational capability (IOC) in perma-

ment, soft sites could be reached within a year or so. It would probably take at least an additional year to reach IOC if the Chinese elect to deploy the system in silos.

11. We see no reason at this time for changing our earlier estimates regarding ICBM development. We still believe that it would take the Chinese at least three years—and probably longer—to progress from the first successful booster firing to an IOC. Thus, even if the Chinese used a system related to their ICBM for launching their earth satellite and were able to proceed with a relatively trouble-free program, 1973 would be the earliest they could have a missile capable of reaching the US. The more probable date still would be a year or two later.

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