First Broad-Ocean Area Missile Test from Shuangchengzi Missile Test Range Complex SSM, China (S)

MISSILE RANGES: STRATEGIC SSM SPACE FACILITIES

CHINA
ABSTRACT

1. (S/D) This basic report provides a chronology of launch preparation activity observed at Shuangchengzi Missile Test Range (MTR) Complex SSM and several other associated facilities in support of China's first out-of-country, broad-ocean area (BOA) ICBM flight test. The report contains a map of the Shuangchengzi MTR, an overall map of associated facilities and downrange deployment, 19 annotated photographs, and a chart depicting the chronology of events.

INTRODUCTION

2. (S/D) China's first BOA missile flight test was the most complex missile test series attempted to date by the Chinese. Launch-related activity was observed involving coordinated activity at many facilities (Figures 1 and 2), including activity at two missile test centers, two missile production facilities, a large portion of the SSM/Space tracking network, and an 18-ship naval task force. There is substantial evidence that this coordination effort was carried out efficiently, with the necessary diverse construction and preparation activity being done simultaneously at one or several facilities. The extensive and varied types of instrumentation deployed to monitor these missile launches indicated the Chinese determination to continue to improve their strategic missile forces.

BASIC DESCRIPTION

3. (S/D) The initial launch preparation at Shuangchengzi MTR Complex SSM for the BOA missile launches was the start of construction of two new theodolite shelters (Figures 3A and 3B) between Tracking Facility 10 and a new plazAmericas at SSM Tracking Facility 11. These were deployed in support of a CSS-X-4 missile launch (items 1, 2, 31, and 36; Chart 1) from the Wuzhai MTC to western China. Construction of the theodolite shelters took place within the Launch Complex B support area. The new shelters were somewhat larger than the old shelter, suggesting a new type of launch azimuth alignment equipment. The first theodolite shelter was externally complete by 25X1 The completed shelters remained in the support area until the new launch azimuth alignment pads were complete.

4. (S/D) Naval activity during November 1979 consisted of the continued outfitting of both Yuan Wang space events support ships (SESSs) with their telemetry/tracking instrumentation (item 52, Chart 1).

5. (S/D) Further launch preparation construction was started in late November 1979, when buried cables were installed to connect the new probable microwave transmission towers to their control buildings and an interconnecting cable network to mobile telemetry and tracking equipment to Shuangchengzi SSM Support Facility and SSM Tracking Facility 10. The installation of the buried cables at Tracking Facility 10 was delayed by the presence of the mobile telemetry and tracking equipment in support of the launch at Wuzhai MTC (items 22, 31, and 32; Chart 1). Installation of these interconnecting cable networks had been completed at Tracking Facility 10 by 25X1 and at the SSM support facility by 25X1.

6. (S/D) Imagery of 25X1 revealed the deployment of a new type of telemetry and tracking equipment set. Two of the new telemetry and tracking equipment sets, interim NIPIC designation Shuangchengzi-A (SCZ-A), were observed adjacent to the launch position B2 launch control facility (LCF) at Shuangchengzi Launch Test Site B1/2. The equipment appeared to be cable connected to the B2 LCF and may have been undergoing initial checkout. The SCZ-A set consists of one cab-over-engine van truck, one series trailer, and one pedes-ped-mounted dish antenna on the rear of a truck chassis. The two SCZ-A telemetry and tracking sets remained adjacent to the B2 LCF until 25X1 when one of the sets was no longer seen, and the second had redeployed to Tracking Facility 10 (items 3 and 34, Chart 1). The SCZ-A set at Tracking Facility 10 remained in position until 25X1 when it was no longer in evidence.
7. (S/D) In late December 1979, a missile airframe was probably shipped from Shanghai/Minhang Missile Production Plant to Shuangchengzi MTC. Between a unit train consisting of one type-B and two type-C missile railcars left Shanghai/Minhang Missile Production Plant (item 40, Chart 1). These railcars had been present at Minhang since Type-C missile railcars are used to transport the stages of the CSL-2/CSS-X-4 missile. The Shanghai/Minhang production plant has previously been associated with CSL-2 space launch vehicles.

8. (S/D) Naval activity during December 1979 consisted of the completion of outfitting of both SESSs with their telemetry/tracking instrumentation.

9. (S/D) Imagery of Shuangchengzi SSM Support Facility revealed the first observation of missile transporters for this launch cycle. The transporters were on the apron of the west checkout building (items 25 and 26, Chart 1). This activity probably signaled the arrival of the CSL-2 space launch vehicle airframe from Shanghai/Minhang Missile Production Plant.

10. (S/D) A second missile airframe shipment was observed in January, when a unit train consisting of one type-B and two type-C missile railcars left Beijing/Nanyuan Missile Production Plant between Beijing/Nanyuan Missile Production Plant has previously been identified with the production of CSS-X-4 ICBM missiles. Missile-associated railcars, resembling passenger/
18. (S/D) Between a flatcar train in the railyard at Beijing/Nanyuan was observed being loaded with a sedan, buses, and trucks (item 50, Chart 1). These vehicles were probably to provide transportation for technicians at the launch site. A third unit, consisting of one type-B and two type-C missile railcars and ten missile-associated railcars, left the railyard of the Beijing/Nanyuan Missile Production Plant between (items 44 and 48, Chart 1). Imagery of [ ] showed five of the missile-associated railcars on the siding of the Shuangchengzi SSM Support Facility (item 28, Chart 1), suggesting that at least part of this shipment was delivered to Shuangchengzi MTC.

19. Naval activity during March consisted of the initial helicopter training at Qingdao/Cangkou Airfield [ ] for precision takeoffs and landings. The Yang Yang Huo 10 (XYH-10) oceanographic research ship (AGOR) was observed in port for repair/maintenance between (item 54, Chart 1). An exercise for the naval task force began on [ ] and continued until [ ] Figure 2 and item 57, Chart 1). The 18-ship task force assembled off the coast of Qingdao and rehearsed recovery operations involving Super Frelon helicopters. The task force consisted of two Yuan Wang SESAs, an XYH-5 AGOR, an XYH-10 AGOR, two Dajiang submarine tenders (AS), two Fuqing replenishment oilers (AORs), six Luda destroyers (DDs), three Tuzhong rescue tugboats (ATRs: Figures 4 and 10 through 14), and one unidentified vessel.

20. (TSR) Between a CSS-X-4 missile was erected at launch position B2 (item 16, Chart 1). Empty first- and second-stage CSS-X-4 transporter cars were observed on the apron of launch position B2, with the gantry covering the launch position, on imagery of [ ] item 15, Chart 1). This activity was the first indication that a missile was being erected. Imagery of [ ] revealed a CSS-X-4 missile erected at launch position B2. Enhancement of the [ ] imagery showed the payload/shroud to be sharply pointed and similar to the cone/tube shaped payload previously observed on CSS-X-4 missiles (Figure 15A). On imagery of [ ] launch position B2 was again covered by the gantry, the first- and second-stage transporter cars were at the base of the gantry, and a CSS-X-4 warhead van was on the access road. The observation of the CSS-X-4 warhead van further confirmed that the erected missile had been a CSS-X-4 and not a CSS-4/L-2 missile launch vehicle. Imagery of [ ] showed launch position B2 to be empty. Slogan placards were also observed erected at Shuangchengzi SSM Tracking Facility 11 from [ ] during the missile exercise (item 37, Chart 1). The removal of the erected missile at Shuangchengzi and the termination of the naval task force exercise at the same time suggest that both exercises were related and probably indicates that a rehearsal involving all participants took place during that time (items 18, 56, and 57, Chart 1).

21. (S/D) Imagery of [ ] also revealed that during the missile exercise, the old theodolite shelter was removed from the launch azimuth pad at launch position B2 (item 13, Chart 1). On imagery of [ ] components resembling the missing old theodolite shelter were observed within a small salvage yard in the support area of Launch Complex B (Figure 3D). The observation of these components suggests that the old theodolite shelter had been dismantled (item 14, Chart 1).

22. (S/D) Between the security fence was extended around the support area at Shuangchengzi Launch Complex B1/2 (item 11, Chart 1). This new fence, as well as the fence around the launch area, still did not have gates at the access points (Figure 16).

23. (S/D) One first- and one second-stage CSS-X-4 transporter were absent from the apron of the east assembly/checkout building at the SSM Support Facility on [ ] when imagery showed the two transporters on the apron near launch position B2 (items 15, 25, and 26, Chart 1). On imagery of [ ] a first- and a second-stage CSS-X-4 transporter were absent from the apron of the east assembly/checkout facility; by [ ] they had returned. On imagery of [ ] a CSS-X-4 first-stage transporter was observed to be absent; it had returned by [ ] This may have been for preparation of the transporter prior to loading the missile airframe. Missile-associated railcar counts at the SSM Support Facility reached a peak of 13 railcars on [ ] and then decreased to a count of five for the rest of the month (items 28 and 30, Chart 1). A type-C missile railcar was observed on the siding serving the west assembly/checkout building and on all subsequent coverage during the month.

24. (S/D) A fourth missile-associated railcar train departed Beijing/Nanyuan Missile Production Plant between (items 49 and 51, Chart 1). Subsequent imagery of the Shuangchengzi SSM Support Facility revealed an increase in the number of missile-associated railcars at the SSM Support Facility (items 28, 29, and 30, Chart 1).

25. Naval activity during April consisted of the completion of the training/rehearsal exercise off Qingdao (item 57, Chart 1) and the sighting of two Dajiang ASs and a Tuzhong ATR in port for repair/maintenance (item 58, Chart 1).

26. (S/D) Final preparations at Launch Complex B1/2 were observed on imagery of [ ] when first- and second-stage transporters were seen repositioned on the apron in front of the doors of the east assembly/checkout building. Transporters have been in similar positions during previous launch cycles and have been an indication that the missile airframe was about to be transferred to the transporters. Imagery of [ ] revealed the gantry covering launch position B2, slogan placards displayed adjacent to the launch position, and security gates added to the access points in the launch area security fence, suggesting that a missile had been erected (items 12 and 19, Chart 1). Further evidence at the SSM Support Facility was seen in the repositioning of the transporters previously seen parked in front of the east assembly/checkout building. Imagery of [ ] revealed a portion of a missile between the legs of the gantry, and imagery of [ ] showed a fully-staged missile erected on launch position B2 (Figure 15B). Three missile-associated railcars were parked on the siding adjacent to the support area at Launch Complex B from (item 20, Chart 1). These railcars probably provided personnel or equipment support for the launch preparations. (Continued p. 9)
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Next 3 Page(s) In Document Denied
27. (S/Field) A second missile was seen erected at launch position B1 on imagery of [redacted] when a portion of the missile could again be seen between the legs of the covering gantry. The slogan placards at launch position B2 and the slogan placards erected since [redacted] at Tracking Facility 11 were no longer in evidence on imagery of [redacted] (items 19 and 38, Chart 1). Two vans were deployed near launch position B1 between [redacted] (item 17, Chart 1). These vehicles have been observed in this position previously and are probably associated with checkout of launch position B1, since they were removed before launch.

28. (S/Field) A fourth unit, consisting of one type-B and two type-C missile railcars, left the rail yard of the Beijing/Nanyuan Missile Production Plant between [redacted] (item 45, Chart 1). Missile and missile-associated railcar counts at Shuangchengzi SSM Support Facility started to increase two days later, on [redacted] and peaked on [redacted] with four type-C, one type-B, and nine missile-associated railcars at the SSM Support Facility (items 28, 29, and 30, Chart 1).

29. [redacted] Naval activity during May consisted of the deployment of the task force from the Shanghai area to the mid ocean impact area between [redacted] (Figure 2). The task force was reportedly inactive in the impact area from [redacted] until the termination of the launch cycle on [redacted].

30. The first CSS-X-4 missile was reportedly launched on [redacted] at 0200Z, with impact occurring at 0742-43S 172-15-21E, within the 70-nm closure area. Postlaunch imagery of [redacted] of Shuangchengzi Launch Complex B1/2 showed launch position B2 empty, with blast marks from the launch in evidence and the first clear observation of the erected missile on launch position B1 (Figure 15C). The second missile was reportedly launched on [redacted] at 0319Z, with impact occurring at 0720S 172-20E, approximately 815 nm short of the announced closure area. Postlaunch imagery of [redacted] (38 minutes after launch; Figure 16) revealed launch position B1 to be empty, with vehicles and personnel on the apron at the base of the service tower. The same postlaunch imagery of other rangehead facilities revealed at least 27 BJ-210 jeeps, 43 cargo trucks, 17 buses, and a large group of people at the viewing stand adjacent to Shuangchengzi SSM Tracking Facility 1. Additionally, two buses, ten cargo trucks, one BJ-210 jeep, and a second large group of people were observed at Shuangchengzi Launch Complex A. Numerous other vehicles were observed along the complex access road. These people and vehicles had apparently attended the second missile launch, on [redacted], and were leaving the area after the launch.

![Figure 11: Xiang Yang Hong 18 Launch](image-url)
31. (S/D) Evidence of additional telemetry/tracking equipment deployment was observed on imagery of _________ at the apex site of the L-shaped instrumentation pattern that is part of Shuangchengri Air Drop Marker _______ and adjacent to Shuangchengri SSM Tracking Facility 22 _______ Both SHIP WHEEL radars at the apex site and a seven-van-truck telemetry/tracking vehicle set were observed at this site (Figure 7). This equipment was most likely deployed at the same time as the rest of the telemetry/tracking equipment (items 24, 35, and 39, Chart 1), but limited coverage had prevented earlier identification. There was some evidence of activity suggesting participation in monitoring these missile launches at Shuangchengri Tracking Facility 1, Tracking Facility 5 _______ Tracking Facility 22, Tracking Facility 24 _______ and Luyang SSM/Space Tracking Facility _______ (Figures 1 and 2).

32. (S/D) The Chinese government announced the reopening of the closure area on _______ and the naval task force was reportedly on route back to China. Telemetry/tracking equipment that had earlier been deployed at the many facilities throughout China was no longer deployed by _______ (items 24, 35, and 39, Chart 1).