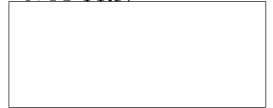


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imagery analysis report

New Mobile Solid-Propellant MRBM Under Development, China (S)

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NEW MOBILE SOLID-PROPELLANT MRBM UNDER DEVELOPMENT CHINA (S)

OVERVIEW

1. Activity observed since May 1983 at Wuzhai Missile Test Complex  China, has indicated that a two-stage, solid-propellant, medium-range, ballistic missile (MRBM) system for mobile land-based deployment is in the mid-to-late stages of development. The missile system can replace the Chinese short-range ballistic missile (SRBM) and the CSS-1 MRBM. During the late 1970s and early 1980s, these two older missiles were gradually being removed from the Chinese ballistic missile operational forces. (S/WN)

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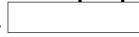
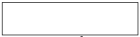

2. The missile will probably be a direct derivative of the CSS-NX-3—the submarine-launched ballistic missile (SLBM) which has been under development for 15 years—and will be launched from a transporter/erector/launcher (TEL), which uses an erectable launch tube/canister. Measurements of ejection test dummies (ETDs) have indicated that the new missile will be identical in size and configuration to the CSS-NX-3. The new missile will probably be either identical to the CSS-NX-3 or will include only slight internal modifications to some of its subsystems. Previous flight tests of the CSS-NX-3 at Wuzhai have probably achieved test objectives for both the SLBM and the land-based missile programs. Imagery of August and September 1983 has shown that a new prototype launch pad for land-based deployment has been completed at Wuzhai and that at least two, and as many as four, ejection tests have been conducted from the TEL. (S/WN)

3. Recent test activity observed at Wuzhai has indicated that this missile program is in the mid-to-late, rather than in the early, stages of development. It is, therefore, anticipated that deployment of the new missile system will be started by 1985. Because the new missile system will operate with far less ground support equipment (GSE) than the systems it will replace, this system will be much simpler to conceal in inconspicuous buildings or caves at missile bases and considerably easier to disperse and hide during field deployment. Included in this report are four annotated photographs and three line drawings. The information cutoff date is 
 (S/WN)

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DESCRIPTION

New Missile System

4. Based on observations and mensuration of four ETDs seen at Wuzhai in August, the new missile will probably be a direct derivative of the CSS-NX-3 SLBM—a two-stage, solid-propellant missile which uses composite propellant. Without the payload, the CSS-NX-3 is  long and  in diameter. Five flight tests of this missile—the most recent in April 1983—have been conducted from Wuzhai SSM Research/Development/Training Launch Site A1/A2/A3 (BE ). One flight test has been conducted from the modified GOLF-class submarine.¹
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New Launch Position

5. A new launch pad, designated Launch Position A4 (Figure 1), was constructed at Launch Site A. Launch Position A4 (Figure 2) is a []-square launch pad with a missile-loading apron approximately [] long. It is [] north of Launch Position A3, a launch pad used in the past for CSS-2 launches only. The configuration and size of the new launch position indicate that it is a prototype for the new missile system and not for the CSS-2. Launch pads for the CSS-2 are normally [] square, and associated missile-loading aprons are at least [] meters long. (S/WN)

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6. Construction of the new launch position (Figure 3) began between []. On [] a []-square excavation was observed at the edge of the apron for Launch Position A3. By [] the apron for Launch Position A3 had been expanded to include the new launch position. On imagery of [] a cable trench and at least three, and possibly four, positioning marks/tiedown points were discernible on the apron. By [] two probable umbilical towers had been installed next to the new launch position, and three camera/instrumentation positions had been installed nearby (Figure 1). Also, one new light standard had been installed, and one of the existing light standards had been repositioned outside the apron extension. A new access road had been constructed at the south edge of the apron. By being driven across Launch Position A3, the TEL for the new missile system could reach Launch Position A4 via this road. (S/WN)

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Ground Support Equipment

7. The TEL (Figures 4 and 5) for the new missile was observed for the first time on [] at Launch Position A4. This TEL includes an erectable launch tube/canister and a [] long transporter section. Two hydraulic actuators for erecting the launch tube/canister and a possible block-and-tackle were discernible. The launch tube/canister—with a hinged cover and at least three ribs—is approximately 11 meters long and 2 meters in diameter. Because the TEL is used with a launch pad, the launch tube/canister—when erected—probably rests on a launch stand or on supports. The launch stand or supports may not be separate from the TEL but may be integral parts. The transporter section is probably a trailer. A truck-tractor, possibly the prime mover for the TEL, was observed on [] parked on the apron at Launch Position A1, south of Launch Position A4. However, it is possible that the TEL is self-propelled. The end of the TEL opposite the launch tube/canister hinge might be an open cab, with two seats on either side of an engine compartment. An unidentified, circular feature is in the center of the TEL. Two concepts of the TEL have been developed—a trailer (Figure 6) and a self-propelled vehicle (Figure 7). The possibility also exists that the TEL being used at Wuzhai is for tests rather than for deployment. Additional imagery is required to resolve several remaining uncertainties about the missile system, including the configuration of the TEL and the GSE complement that will support the missile. In addition to the truck-tractor, other possible test-associated GSE parked on the apron at Launch Position A1 on [] included one cab-over-engine truck prime mover and one cherry-picker crane. (TSR)

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Recent Tests

8. The new TEL had apparently been involved in ejection tests prior to [] [] a CSS-NX-3 ETD (Figure 4) was on the ground near Launch Position A4. A payload

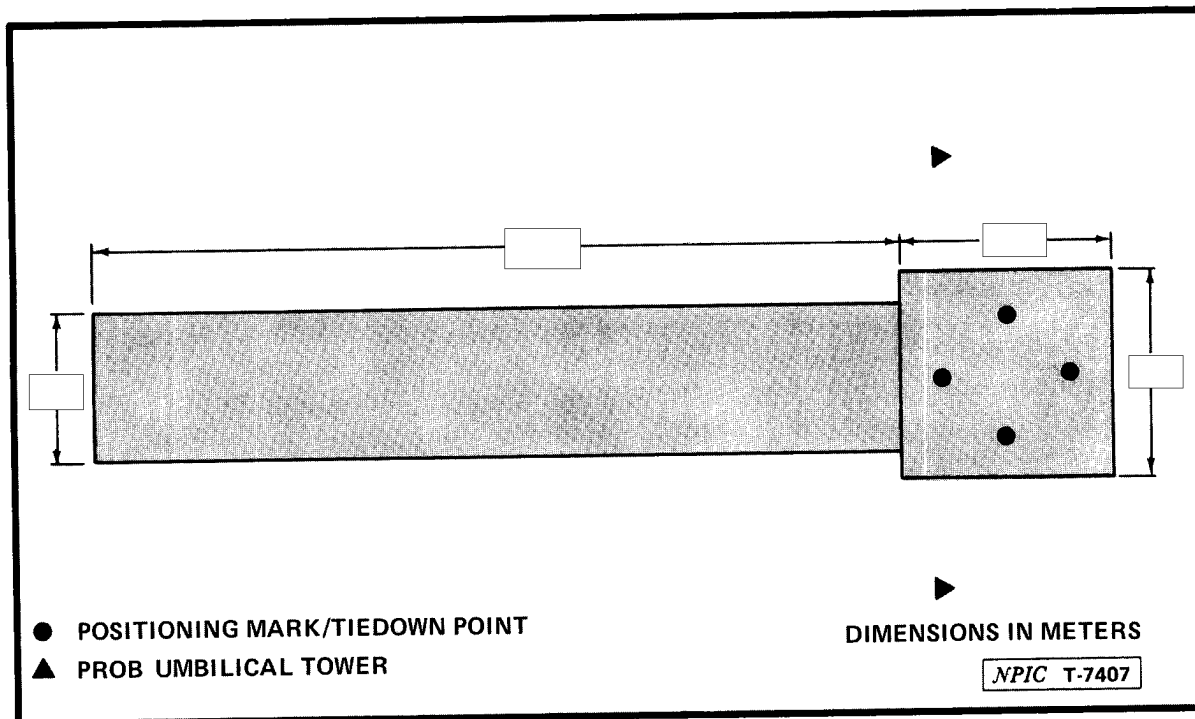
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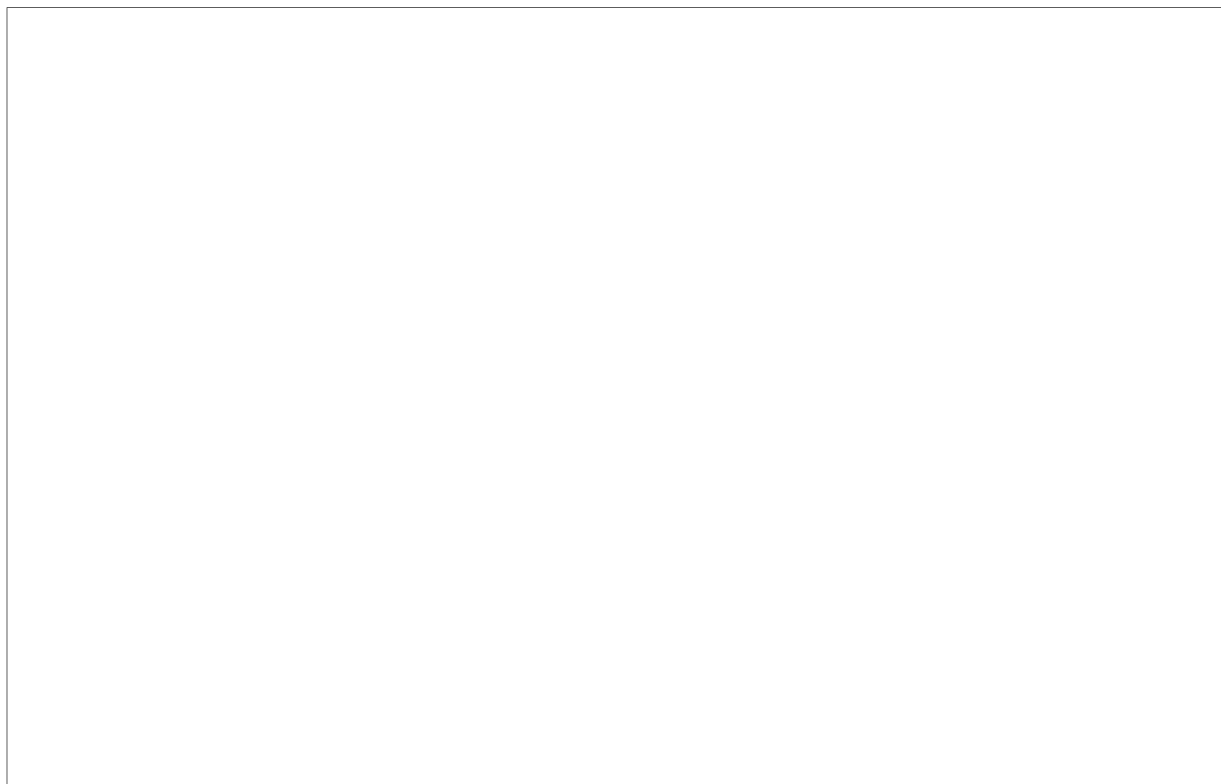
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FIGURE 2. LINE DRAWING OF LAUNCH POSITION A4



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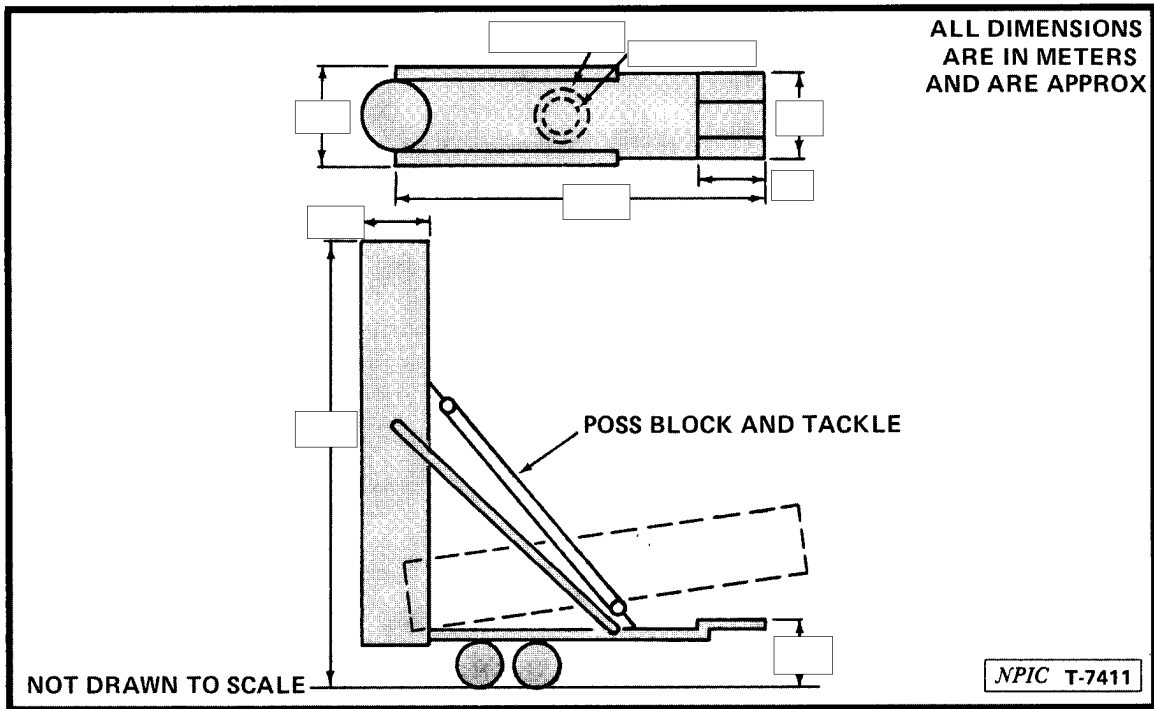
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FIGURE 6. CONCEPT OF TEL AS A TRAILER

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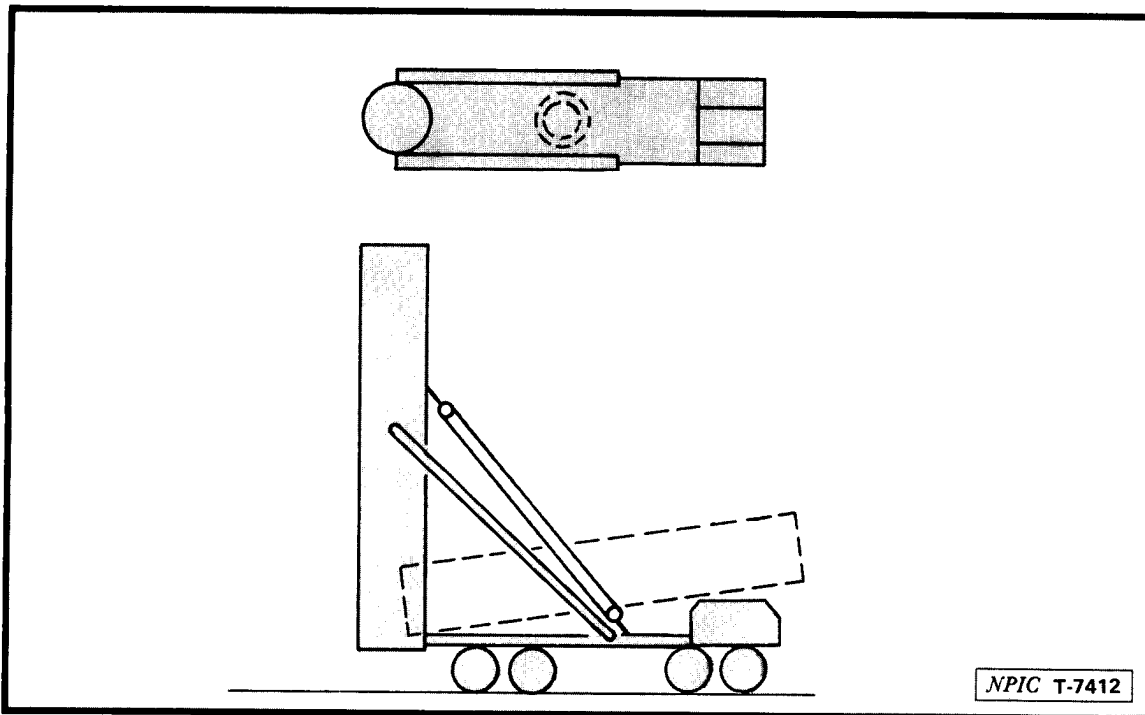


FIGURE 7. CONCEPT OF TEL AS A SELF-PROPELLED VEHICLE

section and a possible launch assist device (LAD) were on the ground next to the ETD. Also on [] chalk lines forming an azimuth/range grid were on the ground along the Launch Position A4 loading azimuth. The azimuth/range grid is used to measure the distance and azimuth of the ETD impact point downrange from the TEL after ejection. By [] a second ETD was on the ground near Launch Position A4. Vehicle tire tracks in the area indicated that the ETD had probably impacted along the azimuth/range grid and had then been moved. An excavation observed on [] in the middle of the grid probably marked the location of the ETD impact. The ETD probably had to be extricated from the ground before it could be removed. Imagery of [] revealed four ETDs in the Wuzhai complex. One remained at Launch Site A, and three were at the nearby Wuzhai SSM Support Facility [] Imagery of [] showed at least four ETD payload sections on the ground near Launch Position A4. Therefore, as many as four ejection tests were conducted in August. (S/WN)

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Status of Missile Program

9. Because the new missile will probably be either identical or similar to the CSS-NX-3 SLBM, previous flight tests of the SLBM have probably achieved test objectives of both the SLBM and the new missile. Therefore, if the August ejection tests were successful, the first flight test from the new TEL at prototype Launch Position A4 could occur by early 1984. Launches from the TEL will probably also satisfy missile reliability testing for the SLBM program. (S/WN)

10. If flight tests from the TEL are successful, deployment of the new missile could begin by 1985. The mobile land-based, solid-propellant MRBM can replace the SRBM and the CSS-1 MRBM. The last three regiments of active CSS-1 MRBMs are expected to be retired or placed in reserve by 1985. (S/WN)

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IMAGERY ANALYST'S COMMENTS

11. Previous experience with Chinese land-based, strategic missile deployment has shown that while an associated missile was undergoing flight testing, bases and launch sites for deployment were under construction. If this practice is continued, bases and launch sites for the new system are now under construction. Previous experience has also shown that new deployment is easier to detect during construction. Camouflage along with underground locations can hinder or prevent the detection of facilities after they have been completed. It is believed that some Chinese launch sites remain undetected for precisely these reasons. In addition, some areas in China suitable for missile deployment have not been covered on imagery for as long as three years or more; therefore, some sites for the new missile may have already gone undetected. (S/WN)

12. The new missile system will be operated with far less GSE than previous Chinese missile systems. The use of less GSE will result in greater mobility for the new missile and will also make it much more difficult to detect. CSS-2 missile launch units require approximately 30 vehicles—including transporters, propellant trucks, and support vans—for field deployment. In contrast, a mobile solid-propellant missile would require approximately six vehicles, including the TEL. A launch unit of this size could be garrisoned in one cave or in one multibay garage and could be deployed to virtually any place in China accessible by a tractor-trailer. (S/WN)

REFERENCES

IMAGERY

All applicable satellite imagery acquired prior to [redacted] the information cutoff date, was used in the preparation of this report. (S/WN)

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DOCUMENT

Beijing Review, "Successful Launching of Carrier Rocket," p 5, 25 Oct 82 (UNCLASSIFIED)

Comments and queries regarding this report are welcome. They may be directed to [redacted] East Asian Forces Division, Imagery Exploitation Group, NPIC, [redacted]

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