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ARMY review completed.

**PROPOSAL FOR INTERAGENCY INTELLIGENCE MEMORANDUM
ON SOVIET ARMOR PROGRAM (U)**

1. (S/NF) The proposal for an Interagency Intelligence Memorandum (IIM) on the Soviet medium tank program mentioned in CIA Memorandum DDI 4966-82-d, 16 Jan 82, is supported by USAARMC. While this type document is of great benefit to the user community, USAARMC has noted some intelligence deficiencies that could be corrected by the IIM. Generally the intelligence community does an excellent job of estimating Soviet developments. However, past products have not always been correct in some areas of critical importance to the armor community. The purpose of this observation is not to criticize the intelligence community for failing to penetrate Soviet security. Rather, it is to point out that in some areas designing equipment good enough to defeat the projected intelligence threat may not result in fielding equipment superior to the threat at IOC. In the worst case, the US equipment may not be capable of adequate modification.

a. (S) During the concept formulation of user requirements for the M60A1 and M1 tanks, intelligence community understated the threat posed by future Soviet tanks and armored fighting vehicles. Therefore, conceptual documents were based on the best, but erroneous, available intelligence.

b. (C) In 1954, for example, the US Army Armor School published the study "Mobility, Firepower, and Protection (U)." The study forecast that the Soviets would field one new tank between 1958 and 1968. In fact, the T-55 and the T-62 were fielded in this timeframe. The study forecast that the tank would have a new 100mm gun able to penetrate 300mm RHA at 919M. In fact, the Soviets fielded a new 100mm APDS round that would penetrate 310mm at 1,000M. It was also predicted that a tank fielded prior to 1968 would have a four-round autoloader. None did. It was felt that the Soviets would not develop a tank gun bigger than 100mm as the increased penetration at 2,000M would be marginal. In fact, in 1961 the T-62 was fielded with a 115mm gun that significantly outperformed the 100mm at higher angles of obliquity.

c. (S) The study that recommended the development of the M1 Abrams MBT stated that the T-72 would have a 115mm main gun capable of penetrating 147mm of RHA at 60° obliquity at 1,000M and 120mm of RHA at 60° obliquity at 2,000M. In justifying the predicted retention of the 115mm gun (although a caveat was included that other reported calibers might include 122, 125, and 130mm), ITAC stated that the penetration design could be improved. The gun chamber volume and tube length could also be increased. In fact, the weapon developed was a 125mm gun capable of penetrating 161mm RHA at 60° obliquity at 2,000M. Again in 1981, it was forecast that the NST (T-80) and FST (T-80 FO) would retain the 125mm gun, but have an improved projectile and increased chamber pressure.

d. (S) In 1959, it was predicted that the new tank to be fielded by 1968 would have 120mm in the front hull plate, compared to 92.5mm for

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the T-54. In fact, the T-55 had a 97mm thick glacis and the T-62 had a 102mm glacis. It was predicted that the Soviets would not add the five to seven tons of armor to the T-62 (37.5mt) to defeat main guns. It is interesting to note that the 41-ton T-72 can defeat tank main guns. Then in 1975, ITAC predicted that the T-72's combat weight would be 35mt. The T-72 in the studies was actually the T-64 with a weight of 38mt. The level of Soviet armor protection in the studies used to generate requirements for the XMI were significantly below those actually achieved by the T-64 and T-72. The armor predicted to be better than steel armor (ESR or TMT treated) was postulated but not as laminated as other "special" armors.

2. (S/NF) Proposals to be included in the IIM on Soviet medium tank programs are as follows:

a. (S/NF) Increase the scope of the IIM to include antiarmor weapons systems, technology, and alternate possibilities. The need to study this field is its impact on design and employment of US Armor systems, i.e., one version of the M1 turret armor is rated as 750mm RHA against chemical munitions and 400mm RHA against kinetic energy munitions. Between 1980-89 three new ATGM's are predicted to enter the Soviet inventory with penetration estimates ranging from 750-950mm RHA (AT-PROJ-1) to 875-1025mm RHA (AT-PROJ-4). Should the Soviets achieve the same muzzle velocity in the RAPIRA-2 125mm smoothbore AT gun as they do with the T-64/T-72 main gun, they will be able to penetrate 350mm of RHA at 2,100M. In other words, USAARMC is also increasingly concerned about KE warhead composition (WA, DU), and development of a hypervelocity antitank system which may become a threat to the M1 system, especially at shorter ranges.

b. (S/NF) Within the current concept paper there appears to be some conflict with the data presented. USAARMC Threat files do not confirm the presence of the T-64B in GSFG. This relates to a problem in identifying nomenclature. It has become apparent to USAARMC that there is no acceptable uniform system for designating projected Soviet equipment. There does exist a STANAG on designating known equipment which is used by the intelligence community. The absence of a uniform system for projected equipment is confusing and leads to unnecessary misunderstandings.

(1) (S) For example, the projected T-80 has been designated the NST (Next Soviet Tank). The former T-80 follow-on is now designated FST (Future Soviet Tank). While this nomenclature precisely defines specific projected tanks, it is an ad hoc solution. After the NST is fielded, the next Soviet tank to be fielded would be the FST. What nomenclature will be adopted to describe the follow-on to the FST? If the FST is redesignated NST, then older documents will be available that will confuse which tank is being described. A real problem of this type was already surfaced. The DIA ATGM and S&T projections - ECC (U) DST-11105-209-79, December 1979, has six projected ATGM designated AT-PROJ-1 through 6. The AT-PROJ-2 became the AT-7 ATGM after publication of the document. The 1980 Executive Summary (DST-11105-209-80) deleted the AT-PROJ-2 but did not renumber the projected ATGM. DIA Special Report

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Soviet Tank/Antiarmor Threat, (1981-2000) (U), DST-1120F-015-81, 1 August 1981, lists the same five projected ATGM but renumbered the sequence.

(2) (U) The problem with renumbering the sequence is that for computer wargames a list of weapons characteristics to be used may be furnished. If the AT-PROJ-3 was listed, the recipient of the weapons list could refer to either document and get a different set of characteristics. USAARMC recommends that the system established by MIA be extended to all ground force equipment. Tanks would be TANK-PROJ-1; BTR's would be BTR-PROJ-1, etc. The sequence should be one-up-numbering and projected systems should not be renumbered when actually observed. Then vehicles would be designated IAW the NATO STANAG (BTR M1978) until the actual nomenclature is confirmed (BTR-70). One central activity should be designated as the office of record for the procedures.

(3) (U) We realize that there are international implications when dealing with some projections. Nonetheless, most projections documents are NOFORN. For those systems already discussed with foreign nations, conferees could use the older nomenclature. We believe the advantages of the newer system of uniform nomenclature will stop proliferations of FST-FO, "T-90", "BUMP-4" and other nomenclatures.

c. (S/NF) There are five known variants of the T-64/T-72 which are known to be product improved systems. These product improvements are in keeping with Soviet practice and not a new "generation" tank.

(1) (S) In addition to a good background on past Soviet design practices, new design possibilities need to be discussed. If the FST follow-on is a turretless vehicle, the target our systems will engage has changed considerably. Therefore, changes are required in US fire control systems accuracy and ammunition. The subsystems that go into the decisionmaking process of new vehicle designs must be looked at more closely. Information on the various subsystems allow for a better understanding of that vehicle's capabilities and vulnerabilities, before the tank is either observed at the factory or paraded. Subsystems of most concern to USAARMC are night vision capabilities, ammunition and ammunition technology, NBC systems, automotive systems performance, armor, armanent and especially ammunition.

(2) (S/NF) The IIM should also cover Soviet countermeasures to US armor vehicle technology. This broad area needs to cover items such as the type of smoke used in vehicle grenade launchers, the type and capabilities of Soviet antitank mines, and signature reduction efforts. The main point is that, we tend to track research and finished products more closely than subsystems and applied technologies which indicate the systems capability.

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