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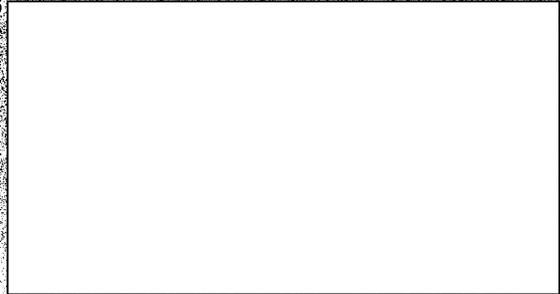
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# The UAR Missile Program and Its Implications for Israel

*Submitted by the*  
DIRECTOR OF CENTRAL INTELLIGENCE

*Concurred in by the*  
UNITED STATES INTELLIGENCE BOARD

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*The following intelligence organizations participated in the preparation of this estimate:*

The Central Intelligence Agency and the intelligence organizations of the Departments of State, Defense, the Army, the Navy, the Air Force, AEC and NSA.

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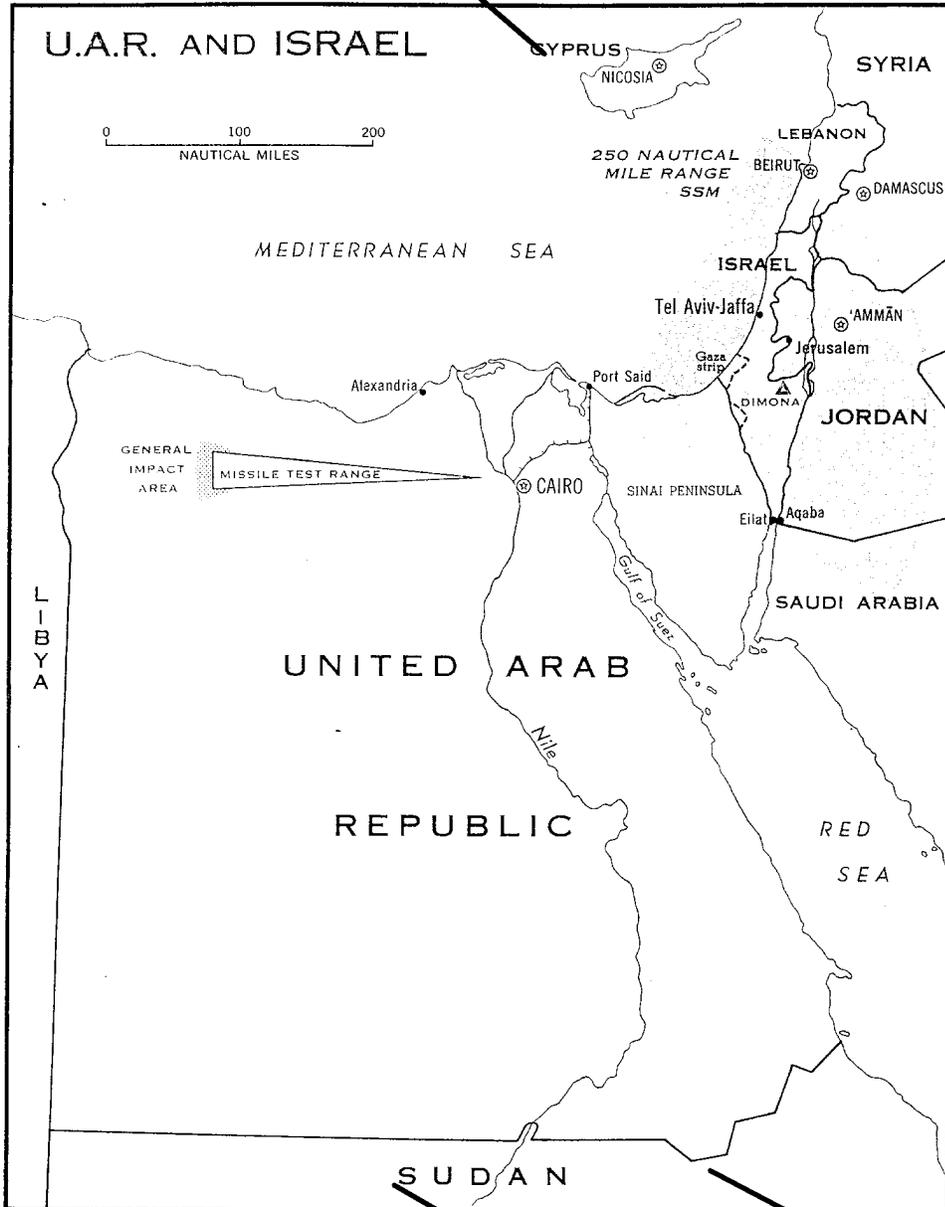
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## THE UAR MISSILE PROGRAM AND ITS IMPLICATIONS FOR ISRAEL

### THE PROBLEM

To estimate the probable developments in the UAR missile program over the next five years, and their implications for Israel.

### CONCLUSIONS

A. By mid-1964 the United Arab Republic (UAR) may be able to deploy a few surface-to-surface missiles (SSMs) capable of reaching Israel, but these missiles would probably have no more than a 500-pound payload, and a CEP on the order of 5-10 miles. They would not have nuclear warheads, and their military value would be trifling. (*Paras. 1-6*)

B. Over the next five years, the UAR will doubtless seek to produce more, and more accurate, SSMs. Because of high costs, inadequate production facilities, and shortage of competent personnel, we believe that the UAR is unlikely to deploy more than a few hundred SSMs, and the figure could well be substantially less. (*Para. 7*)

C. Israel's leaders claim that UAR missiles, despite their inefficiency, could seriously affect Israeli morale and disrupt mobilization, thus enabling UAR conventional forces to overrun Israel. In view of the inaccuracy, limited payload, and limited reliability of the UAR missiles, we believe it extremely unlikely that any UAR missile attack would have such serious results, at least for the next five years. (*Paras. 10-13*)

D. Israel has contracted with a French firm for 250 sophisticated SSMs,

While the factors which have inhibited a new outbreak of Arab-Israeli hostilities in recent years still apply, the progress of the advanced weapons programs will raise tensions on both sides. In an atmosphere of this kind, there will always be the danger that one side or the other might initiate hostile action. (*Paras. 14-15*)

## DISCUSSION

### The UAR Missiles

1. In recent years the UAR has shown an intense interest in acquiring guided missiles and has approached most of the missile-producing nations of the world. The UAR has purchased a few US-made sounding rockets and has acquired short-range tactical naval missiles, air-to-air missiles, and SAMs from the USSR. Since early 1960, the UAR has also secured the services of Western European—chiefly West German—scientists and technicians to develop SSMs capable of reaching Israel. With the help of these West Germans—who apparently now number 20-30—the UAR has developed two missiles, the Victor and the Conqueror.

2. The UAR has also developed a two-stage rocket, the Pioneer, which appears to be a combination of the Victor and the Conqueror. The Pioneer may be designed for use in space research or as part of a program to orbit a satellite, largely for propaganda purposes. We believe that it would have a payload of only about 50 pounds if used as a missile, and hence would have very little military value.

3. The Conqueror probably could deliver a 500 pound payload a distance of 200-250 nautical miles (nm). We believe that the Conqueror had elements of a crude guidance system in 1962; its CEP was very large. Some technical improvements in the guidance system have been observed, and the CEP may now be on the order of 5-10 nm. The Victor has a range of about 250 nm, but a payload of only about 130 pounds at this range. At a range of only 50 nm, however, it could have a payload of a few hundred pounds. Victor missiles exhibited by the UAR in July 1963 appeared to have a guidance system for the first time. This guidance system is similar to that of the Conqueror, and the CEP of the two missiles probably is about the same. The fuel for both the Victor and the Conqueror probably is nitric acid and turpentine, but the UAR may be trying to convert to nitric acid and hydrazine to improve the thrust of the missiles. All these propellants are storable. However, the military value of these missiles with conventional warheads is small.

4. The UAR faces many difficult problems in its missile program. Work on the ground-support equipment apparently is still in an early stage. The UAR has a test range in northern Egypt and has acquired some crude instrumentation that could be used as part of a range. Testing apparently is going on at the UAR test area at Wadi Natrun, but we do not know whether flight as well as static tests are being conducted. The missile effort is totally dependent on outside assistance, and withdrawal of the West Germans or inability to secure materials and components abroad would make it impossible to improve the missiles, or even to carry out the program, in the foreseeable future. Even under present conditions, the reluctance of many of the best qualified Western firms to supply components probably makes quality control difficult.

Nevertheless, the UAR has a missile program going. If it retains its access to outside help and components, it probably will in time be able to develop a better missile, though not a significantly improved one during the period of this estimate.

#### Probable Developments

5. In seeking to develop SSMs, Nasser has been in part motivated by a desire to acquire prestige for himself and the UAR. He views such weapons as supporting the UAR's claim to leadership among the Arabs and among the nonaligned countries generally. It seems likely, however, that a more important consideration is his desire to acquire a weapon which he believes may not only serve to deter the Israelis from any future attack, but also would enable the UAR to strike deep inside Israel in the event of another conflict. It is possible that Nasser and the UAR's military leaders considerably overestimate the actual military value of such missiles. Also, they very likely set great store on the psychological effect of such weapons on Israel.

6. We have no reliable information from any source on the number of Conquerors and Victors the UAR intends to produce and deploy over the next five years. Indeed, we doubt that UAR leaders have come to any definite decision themselves in view of the many variable factors involved. The UAR had produced 12-15 missiles of each type by mid-1962. These numbers probably rose to some 20-30 of each type by mid-1963. In July 1963, a Victor was exhibited mounted on a mobile launcher, constructed on a Soviet truck chassis. A hydraulically-operated cradle, extending over the cab, raises the missile to a vertical firing position on a platform at the rear of the chassis. It appears that the Victor is nearer to being operational than the Conqueror, and may first appear in greater numbers, though the UAR may also be able to deploy a small number of Conquerors by mid-1964. However, we have no evidence to date of any deployment of either missile, or even of troops being trained in their use.

7. We believe that there are a number of factors which will limit the size of the UAR missile buildup. The cost of any sizable missile program would be a heavy burden for the UAR. [redacted] suggested that the UAR is planning a force of some 500 Conquerors and 400 Victors. We estimate that to deploy such a force over the next four or five years would bring the total cost to something like \$400-600 million, and between one-half and three-fourths of this cost probably would be in hard currency. Such expenditures, on top of the large requirements for other parts of the defense budget and for the economic development program, would be an extremely heavy burden on the foreign exchange resources of a country which is likely to continue to be in difficult economic straits for the foreseeable future. Moreover, a large missile program would require a considerable expansion of production facilities and occupy the services of a disproportionate number of the UAR's scarce scientists and technicians. While we cannot make an estimate with any great degree of confidence, we believe that, all things considered, the UAR is not likely to deploy more than a few hundred

of these missiles over the next five years, and the figure could well be substantially lower.

### Implications

8. Even when the UAR has an operational SSM system, its military value is likely to be modest for some time. The UAR's missiles will be of little military value without nuclear warheads, and we see no prospect of the UAR's producing such warheads in the foreseeable future. Even if the UAR were to acquire a missile with a 1,000 pound high explosive warhead and a CEP of one nm, 200 such missiles, concentrated on one Israeli airfield, could be expected to damage only 15 percent of the aircraft parked in the open and less than one percent of the aircraft protected by revetments. If the CEP were three nm, 200 such missiles could be expected to damage less than one percent of the aircraft, even if there were no revetments.

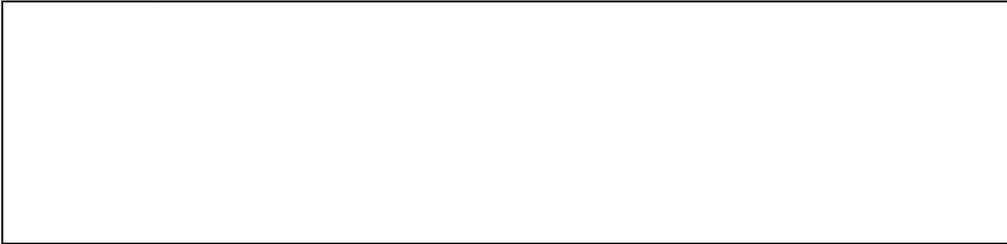
9. Although the UAR's missile program does not have much direct military significance, it has had a considerable psychological effect on the Israelis, who are acutely aware that their small country presents a compact and vulnerable target. Moreover, the Israelis see these missiles as weapons against which they will be unable to provide a defense. They also fear that possession of such weapons may encourage UAR leaders to take greater risks, perhaps even to the point of launching a surprise attack.

10. While the UAR missiles would have negligible value against Israeli military installations, they would clearly have a better chance of hitting larger targets such as population centers. With a standing army of only 50,000, the Israelis depend on their ability to mobilize some 200,000 additional soldiers in a 48-72 hour period. They contend that the UAR missiles, fired in a surprise attack, could seriously disrupt mobilization, and enable the UAR's conventional forces to overrun Israel.

11. The extent to which a UAR missile attack with HE warheads might disrupt mobilization and break down the morale of the Israeli civilian population would depend on the size and intensity of the attack. A heavy barrage on a particular area, if it could be sustained, probably would disrupt activities there, while a few random missiles would not produce any significant results. A missile assault would, of course, be accompanied by a UAR air-strike—one TU-16 can carry as much of a payload as 20 Conquerors—but would also bring forth Israeli retaliatory air strikes. In view of the inaccuracy and limited reliability of the missiles, the inherent difficulties of launching a large number of missiles, [redacted] we believe it extremely unlikely that the UAR would be able to mount a missile attack which would do enough material damage to disrupt seriously an Israeli mobilization effort.\*

12. Missile attacks would have adverse effects on the morale of Israel's civilian population, especially if crowded areas of cities were hit.

\* See NIE 30-63, "The Arab-Israeli Problem," dated 23 January 1963, for details of Arab and Israeli military capabilities.



13. The use of chemical warheads by the UAR would not change this picture significantly. The UAR has a military chemical warfare (CW) establishment and has employed aerial bombs of highly concentrated tear gas in Yemen. It might attempt to fit its SSMs with CW warheads, using perhaps mustard or phosgene, although there are formidable technical problems in missile delivery of CW. Directed at population centers, CW warheads probably would have some terror effect but still probably would not disrupt mobilization.

14. While Israeli leaders probably do not fully believe the claims they have made regarding the progress of the UAR missile program, they very likely do have a real fear of future UAR missile developments. Moreover, they probably believe that Israel must acquire SSMs, both to deter the UAR and to reassure the Israeli people that the country's defenses are adequate. We believe that Israel decided by late 1962 to undertake the development of a SSM system. Israel has contracted with a French firm for 250 solid propellant missiles with a range of about 250 nm, a payload of about 1,500 pounds, and a CEP of about one-half mile. Israel hopes this missile will be operational during 1965. Israel may also be developing a missile independently of its contract with France. In addition, the size of the Israeli nuclear energy program, what we know of its nature, and the amount of uranium concentrate already acquired all suggest that Israel at least intends to put itself in a position to be able to produce nuclear weapons relatively quickly after a decision to do so. Indeed, we believe that if the Israelis saw no other counter to a growing UAR military threat, they would attempt to produce a nuclear weapon.\*

15. The factors which have inhibited a new outbreak of Arab-Israeli hostilities in recent years still apply. Nevertheless, as the advanced weapons programs progress, tensions will probably rise on both sides. If either country came to feel itself in critical danger, it might go to extreme lengths to maintain its security. If Nasser could not devise a counter to an Israeli nuclear threat, he probably would turn to the USSR to try to ensure his protection. While the Soviet Union might increase its military aid to the UAR, possibly even including SSMs with a range sufficient to reach Israel from Egypt, we do not believe the USSR would provide nuclear weapons. Israel, likewise, would grow more edgy, becoming increasingly activist in its dealing with the Arabs. In an atmosphere of this kind, there would always be the possibility that one or the other side might initiate hostile action.

\* See SNIE 30-2-63, "The Advanced Weapons Programs of the UAR and Israel," dated 8 May 1963, for a more extensive discussion of the advanced weapons programs of the two countries.

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