

On Nov. 18, Iran flew its new Ashura missile for the second time. Although the test was less than a complete success, Iran Defense Minister Mustafa Najjer was sufficiently satisfied to release impressive video footage showing what was clearly a previously unknown



By **Uzi Rubin**, president of the Rubincon consulting firm and founder of the Israel Missile Defense Organization.

large multi-stage ballistic missile roaring off a mobile launcher.

In a series of interviews after the test, Najjer stressed that the new missile, renamed "Sajil," had a range of more than 2,000 kilometers and that it was a two-stage design,

powered by composite solid-propellant rocket motors.

Nevertheless, when six months later a group of prominent U.S. and Russian academics released a detailed assessment of Iran's missile and nuclear capabilities, their report made this astonishing statement: "There is no reliable information at present on the state of Iran's efforts to develop solid-propellant rock-

Iran's Missiles: Facts Vs. Fancy Nation's Weapons Remain a Real Menace

et motors and therefore no basis on which to make an assessment."

Incredibly, both the unambiguous photographic evidence and the corroboration of Western sources were simply ignored in the May report, "Iran's Nuclear and Missile Potential, a Joint Threat Assessment by U.S. and Russian Technical Experts," by the East West Institute in New York.

Discarding any evidence to the contrary, the report judges that Iran's missile industry is incapable of advancing on its own beyond rudimentary Scud-level technology. While grudgingly accepting that "Iran ... has qualified engineers who are able to make good use of the technology that is available to them," the report holds that "this does not show that Iran has made a fundamental technological breakthrough."

Pontificating on the "tremendous intellectual and material effort" that the United States and Russia have had to invest more than half a century ago to develop and produce what were at that time modern ballistic mis-

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siles, the authors decree that "Iran does not have the infrastructure ... or the scientists and engineers to make substantial improvement in basic rocket components."

As a result, they condescendingly state that Iran's putative global-range missiles will be "large, visible and cumbersome"; in other words, pretty useless.

Perhaps irked by the disparaging assessment and patronizing tone, and with the ink still wet

on the report's print, the "non-existent" Iranian scientists and engineers quickly fired off another of the Sajil missiles, the third in a row, on May 20. To dispel any lingering doubts, they released color video footage of the entire boost phase, clearly showing the full burn of the first stage, the tricky "fire in the hole" stage separation cum second stage ignition, the discarding of the empty casing of the exhausted first stage and what looked like an activation of a thrust termination system.

One was reminded of the early 1960s newsreels of the first Minuteman flight tests.

But there is more to this than meets the eye. The very existence of the Sajil is living testimony that Iran has secured access to the high-strength steel and specialized precursor materials needed for large-diameter solid rocket motors, and that it now possesses the specialized industrial infrastructure, such as large mixers, casting pits, X-ray machines and test stands, without which such 10-ton-class rocket motors cannot be manu-

factured, inspected or tested.

All those precursor materials and industrial machinery are strictly controlled by the Missile Technology Control Regime (MTCR) and by right should have never been available to Iran. Yet, the report cheerfully observes that "there appears to have been some success in recent years in improving the MTCR", and recommends without any hint of sarcasm that "this improvement be maintained and strengthened."

Was there ever a barn door slammed shut so hard after the horses were miles away?

By its own charter, the East West Institute focuses on critical challenges that endanger peace. Nothing endangers peace more than refusal to face the facts and underestimation of the adversary.

Iran's scientists and engineers are as bright, as capable and as innovative as any others. Hence, Iran's putative long-range missiles, if and when deployed, will be neither large nor visible nor cumbersome, but as deadly as whatever the established missile powers deployed at early stages of the Cold War — in other words, a real menace.

Wishful thinking will not help here, and the United States would do well to base its policy on cold facts rather than on selective fancy. ■

What Went Wrong With U.S. Air Force Aerial Tanker Program

By **MARK WERFEL**

Although only partial information is publicly available, significant missteps are evident. What is needed is a new government approach when acquiring modified commercial systems (MCS) that more clearly specifies requirements and provides the company with a process to know up front which of its products is more desirable to the buyer.

Any acquisition starts with a strategy that determines the outcome. This program has a commercial aircraft baseline, modified for tanker use by adding a bladder to hold fuel and a straw to deliver it. The aircraft size drives performance, cost and payload. So the commercial nature of the design and the aircraft size are the core strategic factors.

Prior to submitting its proposal, Boeing asked what size aircraft the Air Force wanted, implying that size would drive its offer, perhaps more than (or more clearly than) expressed source-selection criteria.

The Air Force awarded the contract to Northrop-EADS

based on the large Airbus A330. Boeing, when it lost, argued that the Air Force was misleading about wanting a midsize aircraft — Boeing proposed the 767 instead of the much larger 777 — and seemingly expected a future acquisition for the larger plane.

In the upcoming competition, Boeing hints that it will propose the 777, given the history.

Boeing, with a choice of aircraft to propose, needed more clarity than the solicitation offered. I'd expect that as a leading aircraft manufacturer with significant experience in military and commercial contracting, Boeing was correct.

Failure To Communicate

The company's initial question and later comments imply a failure of the conventional source-selection process to clearly communicate the customer's strategic requirement — aircraft size — and accountability for responding when questions are asked, as Boeing claims it was misled.

This was a paramount matter, pointing to the formulation of its proposal strategy: which plane to offer?

Commercial designs have overlapping capabilities for different market segments. Military customers seeking an MCS solution understand that it will not be optimized for them, but the disadvantage of lower performance can be offset by lower pricing and low technological risk.

System development costs are spread over a larger commercial base, with the military paying for additional development needed only for the military.

Further, commercial technology has generally been proved in the marketplace.

In this high-value MCS scenario, it would seem that each offerer could have government discussions promptly after solicitation release regarding which of that firm's systems is preferred, allowing it to make a better-informed decision about which solution to propose.

This is not technical leveling, where one offerer is improperly nudged toward improvement by comparison of its proposal with another's, but a comparison of one firm's solution with another of its own, done at an appropriately high engineering level.

The government's response re-

garding which system it considers more desirable would be documented, and subsequently must be verifiable at award and consistent with the source-selection decision.

This will be harder to do, but should reduce costly second-guessing and target-missing during solicitation reading and proposal formulation, reduce protest risk, and result in better solutions. Improved clarity allows a superior proposal and solution.

Read Marketplace Conditions

Timing MCS acquisitions to the marketplace is an obvious necessity. It is myopic to consider aircraft based on a soon-to-end production line, and doing so ignores long-term realities. Older aircraft typically offer a lower cost, but also less performance, with risks of higher-than-proposed life-cycle costs and problematic logistic support over time. This can be exacerbated when commercial customers exit to buy newer configurations — rendering older ones obsolete, but still on government contract.

Clearly, the timing of a new

aerial tanker buy should roughly coincide with (and be based on) the new commercial configuration.

This new approach, to be more realistic, would accommodate some imprecision. Commercial aircraft market deliveries may start later than first anticipated, or the military might want to delay ordering to observe initial performance once fielded.

The government might be able to benefit further when buying MCS by taking advantage of commercial market imprecision. If there's a lull in commercial buying, could MCS be offered at a lower price by shifting government deliveries so the manufacturer can stabilize production? If so, the contract scope can be set on a multiyear or program-life basis that permits acceleration of MCS ordering for lower prices, or for wartime and surge requirements.

What won't this fix? The innate desire of military and political leaders to distort government use of free-market offerings. ■

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