

# Assessing Iraq's Al-Husayn Missiles

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Brief Analysis

**T**he launch of more than two dozen Al-Husayn missiles during the opening days of the current war has emphasized the importance of missiles in Iraqi military strategy. Striking military and civilian targets in Israel and Saudi Arabia could pose severe political problems for the United States. Israel could be dragged into the conflict if substantial casualties result from a chemical weapons attack. Missiles also could be fired at other U.S. allies, such as Turkey or even Egypt.

It is impossible to prevent Iraq from launching missiles. Iraq started the war with dozens of launchers and hundreds of missiles. Because it is extremely difficult to locate and destroy mobile missile launchers, it has not been possible to totally eliminate the potential missile threat. The successes of the U.S. Patriot missiles in shooting down Al-Husayn missiles, however, has minimized the political and military dangers posed by the missiles. The prospect of greater Israeli involvement in the conflict was significantly reduced by the deployment of Patriot batteries.

### The Al-Husayn

The missiles used by Iraq against Israel and Saudi Arabia are Iraqi-made Al-Husayn ballistic missiles. These missiles, which have a range of around 600 kilometers, are adaptations of the Soviet Scud B. The Scud B is a 1960s-vintage, liquid-fueled missile with a range of just under 300 kilometers. It carries a 1,000 kilogram warhead. In contrast, the Al-Husayn has double the range, about 600 kilometers, but is capable of carrying a payload of no more than about 190 kilograms.

The Al-Husayn warhead is small and relatively ineffective. The greatest danger probably comes from the impact of the missile when it hits the ground. A direct hit can cause considerable damage, but a near miss accomplishes almost nothing. Western sources estimate that the missile had a CEP of 2,000 meters, meaning that half the missiles will hit within that distance of the intended target. Iraqi engineers, however, have boasted that the missile has a CEP of only 500 meters.

Iraq revealed the existence of the missile in August 1987. It was first fired against Iran in February 1988. According to Iranian sources, the missiles were cannibalized from Soviet-supplied Scud B missiles, requiring three Scuds to produce two Al-Husayns. The size of the fuel tanks was increased, extending the length of the missiles by four feet.

Iraq has at least three types of launchers for the Al-Husayn. Because the missile is too long to be fired from Soviet Scud B launchers, Iraq developed the Al Waleed launcher, which is derived from a licence-built Swedish commercial tractor-trailer. Iraq has less mobile trailer launchers, which were used in the war with Iran. Finally, Iraq has constructed static launchers, including the ones located near the air bases in Western Iraq.

Following the end of the Iran-Iraq War, Baghdad began to assemble completely new missiles using imported components. West German press reports suggest that Iraq enlisted the assistance of a large number of German companies to manufacture such items.

Improved versions of the Al-Husayn have been reported. In April 1988, Iraq tested the Al Abbas, a missile with a range of 800 to 900 kilometers. Iraq also is reported to have improved the accuracy of the Al-Husayn, allegedly by

using French components to enhance the guidance systems. Iraq may have developed a new version of the missile using liquid oxygen, which would either improve the range or payload of the missiles.

### The Iran-Iraq War

The Al-Husayn missiles were introduced towards the end of the Iran-Iraq War. Because most of Iran's major cities were beyond the range of Iraq's Scud missiles, it was a complete surprise to the Iranians when missiles began to land on Tehran. Between February 29 and April 20, 1988, 189 Al-Husayn missiles were fired at Iran. Iranian figures suggest that the missiles killed at least 2,000 people during these attacks. Iraq never fired more than 11 missiles in one day, or more than seven missiles at one time. The missiles were used to achieve a specific objective. Baghdad told the Iranians that it would stop firing Al-Husayns only if Iran agreed to stop attacking Iraqi towns and cities. When Tehran accepted these terms, Iraq stopped using the missile.

All of the missiles fired at Iran were armed with conventional warheads. Iraqi hints that chemical weapons might be used against cities, however, were taken seriously by the people of Tehran, especially after the chemical weapons attack on the Kurdish town of Halabja. Iranians say that when one missile hit a bakery, residents panicked because they thought that flour in the air was really poison gas. Iraq continued to bombard Iranian cities for 52 days. Eventually, morale cracked. According to one estimate, at least a quarter of the population of Tehran fled to other cities. Others took to sleeping in a camp on the outskirts of Tehran, and special bus lines were organized so that people could commute to work. In the end, Iran was forced to accept Iraqi conditions, and had to agree to stop all attacks on Iraqi towns and cities. Iran had no means of coping with the attacks, either offensively or defensively. It was the beginning of the end for Iran in the war.

### Chemical Warheads

Iraq has yet to fire an Al-Husayn with a chemical warhead. Such weapons are believed to be in the Iraqi arsenal, but no characteristics are known. Because of the small size of the warhead, an Al-Husayn could carry only a small amount of chemical agent. A Soviet Scud missile warhead contains up to 550 kilograms of nerve agent, but an Al-Husayn probably could not carry more than 100 to 150 kilograms. If Iraq has a missile more capable than the Al-Husayn, it might be able to mount a considerably heavier payload.

Iraq is likely to fill a warhead with a nerve agent. Both sarin and tabun, agents developed by Nazi Germany, were produced by Iraq at Samarra. Sarin is a non-persistent agent, and dissipates extremely quickly. A gas mask provides almost complete protection. Tabun lasts longer before it disappears, but is dangerous only if touched. Hence, people under cover are protected against it.

Because of the small size of the payload, a great many Al-Husayns would be needed to create a dangerous chemical threat. If the people under attack have proper protective clothing and gas masks, the danger from poison gas is relatively small. It is unprotected civilians who are most at risk.

W. Seth Carus, a fellow at The Washington Institute, was the John M. Olin Foundation Fellow at the Naval War College Foundation for 1989-90. He is author of the Institute studies **The Poor Man's Atomic Bomb: Biological Weapons in the Middle East (<http://www.washingtoninstitute.org/templateC04.php?CID=77>)** and **The Genie Unleashed: Iraq's Chemical and Biological Weapons Programs (Policy Paper #14, 1989)**. He is co-author, with Hirsh Goodman, of **The Future Battlefield and the Arab-Israeli Conflict (Transaction Books, 1990)** and, with Patrick Clawson, of **Iraq's Economic and Military Vulnerabilities (Policy Focus #14, October 1990)**. ❖

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