



## Two Videos of American Airstrikes on ISIS That Should Scare Iran

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Credibility in international relations, [noted](#) Benjamin H. Friedman in TNI in August, “doesn’t travel well.” Tough actions in one part of the globe don’t necessarily make leaders in another tremble at the sound of our footsteps. Weakness in one place doesn’t necessarily provoke aggression in another. “Historical studies show,” wrote Friedman, “that leaders deciding whether to defy foreign threats focus on the balance of military power and the material interests of the threatening state, not on its opponent’s record of carrying out past threats.” So all the worries that Obama’s false start on Syria last year inspired Russia’s revanchism in Ukraine or China’s pushiness in the South China Sea are overwrought. And the new campaign against the Islamic State will probably have a similarly ephemeral impact on America’s credibility in other confrontations.

But a faraway war can still send shockwaves through national-security establishments around the world. A rival might demonstrate that his forces are stronger than expected; a friend’s hidden weaknesses might come to light. The decisive U.S. victory in the 1991 Gulf War lit a fire under the Chinese military, which realized the extent of its inferiority. Days after the war, the Soviet Union’s Marshal Viktor Kulikov—formerly [commander](#) of the Warsaw Pact forces—told an interviewer [that](#) “The military operations between the coalition forces and Iraq have modified the idea which we had about the nature of modern military operations....The Soviet Armed Forces will have to take a closer look at the quality of their weapons, their equipment, and their strategy.” There were similar recalculations after, for example, the 1999 NATO air campaign in the former Yugoslavia.

The air assault on the Islamic State will be no different. And there’s one country that has to be paying particular attention: the Islamic Republic of Iran. US Central Command has released several videos of strikes on ISIS facilities. Two of these videos demonstrate advanced bombing techniques that analysts have noted will be important in an attack on Iran’s nuclear facilities. Writing in *International Security* in 2007, Whitney Raas and Austin Long [dug into](#) the technical side of a possible Israeli strike. Many of Iran’s nuclear facilities, such as the huge centrifuge halls at Natanz, are hardened and buried to make the attacker’s task harder. One bomb—even a

“bunker buster” designed for the task—might not be enough to dig through all the dirt and high-strength concrete. “One method” for dealing with this, Raas and Long say, “is to use [laser-guided bombs] targeted on the same aimpoint but separated slightly in release time to ‘burrow’ into the target.” A former Israeli Air Force general said that this method could “eventually destroy any target.” But hitting the same spot again and again takes extreme precision.

And that’s exactly what we see in this footage of a strike on “an ISIL compound” near Raqqa on Tuesday.

Two bombs hit in quick succession—and then two more, right on the same spots. The first two bombs appear to have been “bunker busters” aiming to knock out some bunker that may have been beneath the building—their impacts produce no visible explosion. The second pair may have been intended for the above-ground portion of the structure—we see a lot more smoke and fire, and part of the building collapses.

But Iran’s nuclear facilities aren’t just buried—some of them are big, too. Centrifuges are fragile, but you wouldn’t want to go through the trouble of penetrating Iranian airspace and then penetrating the bunkers, only to leave many of them still functioning. You want to be sure you’ve destroyed them throughout the enrichment hall. Raas and Long use high-explosive blast curves, which show how quickly the destructive power of an explosion (in this case, overpressure) dissipates as distance from the explosion increases. Cold War-era research into the effects of nuclear explosions showed how much overpressure is needed to reliably destroy different sorts of structures and objects. If you know how much overpressure is needed to destroy your target, the radius at which your munition produces that much overpressure, and the area of your target, you know how to space your aimpoints. CENTCOM demonstrates this principle in this footage, also from Tuesday, of a strike on an Islamic State vehicle staging area. Pay attention to the outlines of the property:

About a dozen explosions, spaced throughout the target area. This method gives the attacker confidence that nothing on that property is going to show up on the battlefield again. Raas and Long calculate that about three munitions going off inside one of the big centrifuge halls at Natanz would be enough to ensure destruction.

In other words, an Israeli strike would likely combine these two techniques. An American strike, as Geoffrey Kemp and I noted in our 2013 book [War with Iran: Political, Military, and Economic Consequences](#), would be easier and more likely to destroy the targets. We’d have better weapons—the thirty thousand pound [GBU-57 Massive Ordnance Penetrator](#), for example—and better infrastructure to back us up. Yet we’d use the same principles.

The Iranians are aware of all of this. They know we can hit their nuclear facilities, and they know the Israelis probably can, too. They also know that we’re hesitant to go to war with Iran if we can avoid it. But their defense planners surely can’t have been thrilled to watch American airmen demonstrate these two techniques in Tehran’s neighborhood.