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Russia Threatens Commercial Satellites Providing Support to Ukraine

THE ISSUE

Russian officials have recently raised the possibility that Moscow might view commercial satellites that are providing support to Ukraine as legitimate targets for retaliatory strikes. Konstantin Vorontsov, deputy head of Russia's delegation at a U.N. arms control panel, has said that the use of Western satellites to help Ukrainian forces on the battlefield is "an extremely dangerous trend" and that "quasi-civilian infrastructure may be a legitimate target for a retaliatory strike."

MILITARY NECESSITY, DISTINCTION, AND PROPORTIONALITY

There are few international treaties that govern these types of operations in space. The Outer Space Treaty does not govern this area. The Law of Armed Conflict, which is not a law per se but rather a collection of treaty agreements and commonly held customs that govern conduct by nations in war, provides the only real context by which to evaluate this threat. The principles of military necessity, distinction, and proportionality are germane in this area.

- The principle of military necessity authorizes the use of force to accomplish a legitimate military mission. If a commercial satellite or network of satellites is indeed providing direct support to Ukraine's military efforts, the Russians could argue that under this principle, they can target the satellite(s) to accomplish their military mission. This would be an extraordinary and controversial claim. Such an attack has no precedent.
- The principle of distinction requires combatants to distinguish between combatants and non-combatants.
- The principle of proportionality is the concept that the anticipated loss of life and damage to property incidental to attacks must not be excessive in relation to the concrete and direct military advantage that it is expected will be gained.

It is conceivable that Russia could argue that an attack on a commercial satellite providing direct satellite communications or imagery in support of Ukraine meets these requirements.

HOW PRACTICAL IS SUCH A THREAT TO STRIKE A COMMERCIAL SATELLITE?

The possibility Russia could craft such a legal basis for an attack does not mean that such an attack would be feasible. It would be challenging for Russia to have an appreciable kinetic impact on these satellites. Starlink communications satellites are the size of shoeboxes, and there are thousands of them. Commercial imaging satellites such as Maxar are bigger, plentiful, and replaceable.

The Russians possess the Nudol anti-satellite missile with which they killed their own defunct Kosmos 1408 satellite, but using it against one of these commercial satellites would be like using an expensive sledgehammer to kill a mosquito.

There may be non-kinetic options using cyber and electronic warfare attacks. For

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example, Russia targeted Viasat's KA-SAT broadband geostationary satellite with cyberattacks that affected coverage in Ukraine and several other European countries at the beginning of the Russian invasion of Ukraine. Viasat serves as a defense contractor for the United States as well as other nations including Ukraine.

Adversaries continue to refine their ability to jam satellite signals by using directed energy weapons, including lasers and microwaves beamed from the ground or from neighboring satellites, in addition to cyberattacks on ground stations that can severely damage the reliability and consistency of capabilities. SpaceX, which operates the Starlink satellite Internet constellation, earlier in the conflict noted that the Russians had attempted to jam its satellites, that in response it had "reprioritized to cyber defense & overcoming signal jamming," that some terminals near conflict zones had been seeing hours of Internet blocking, and that a software update provided by the company would assist in bypassing jamming attempts.

HOW WOULD THE U.S. RESPOND?

It is unclear how the U.S. would respond to such an attack. U.S. Space Command is tasked in the Unified Command Plan to "protect and defend U.S. and, as directed, allied, partner, and critical commercial space operational capabilities." There are notable responses, including directed energy weapons, that could potentially be implemented. Todd Harrison, formerly of the Center for Strategic and International Studies, has said that directed energy weapons have "the advantage of protecting satellites without producing space debris, which is important to the long-term viability of the space domain for all users, not just the U.S. military."

In the event of such a Russian attack on a commercial satellite, the Administration would most likely apply the same policy in space that it has used for proposals like a no-fly zone or the provision of Army Tactical Missile System missiles in the Ukraine conflict and be very circumspect and low-key in any response. The Administration would likely rely on a proportional low-profile cyberattack and electronic warfare to disable a Russian satellite—if it responded at all.