

Lessons from MQ-9 Reaper & SU-27 encounter over Black Sea

Introduction:

The current Russia-Ukraine conflict has increased the risk of military confrontation between NATO and Russia. One such incident occurred on 14 March 2023, when a Russian SU-27 aircraft struck a US Air Force (USAF) intelligence, surveillance and reconnaissance MQ-9 unmanned aerial vehicle's propeller, causing U.S. forces to bring it down into international waters of the Black Sea.^[i] The MQ-9 drone was conducting routine operations in international airspace when it was intercepted and hit by the Russian SU-27 aircraft.

According to Gen. James B. Hecker, commander, U.S. Air Forces Europe and Air Forces Africa "Several times before the collision, the SU-27s dumped fuel on, and flew in front of the MQ-9 in a reckless, environmentally unsound and unprofessional manner. This incident demonstrates a lack of competence in addition to being unsafe and unprofessional". According to Pentagon Press Secretary Air Force Brig. Gen. Pat Ryder, this incident most likely caused damage to the Russian SU-27 aircraft, although it was able to land.^[ii] This incident has various strategic implications.

Why is this intercept different?:

Was this the first time when such an intercept between the US and Russian Airforce occurred? The answer is no. In 2020, Russian jets crossed in front of a USAF B-52 bomber that was flying over the Black Sea, and flew as close as 100 feet (30 meters) in front of the bomber's nose, causing turbulence. In February 2023, U.S. fighter jets intercepted two Russian TU-95 bombers in international airspace off Alaska's coast, and "escorted them" for 12 minutes. The only difference between the previous encounter and this one is that of the physical contact and collision.

On the other hand, The Russian Defense Ministry said the U.S. drone was flying near the Russian border and intruded in an area that was declared off limits by Russian authorities. It said that the Russian military scrambled fighters to intercept the U.S. drone. It claimed that "as a result of a sharp maneuver, the U.S. drone went into uncontrollable flight with a loss of altitude and collided with the water surface."^[iii] This statement from Russia clearly puts the blame on US Air force for creating tensions near Russia's territory in Crimea.

Russian Air Force sending signals?:

Few signals can be derived here. One is that Russia will not hesitate to start a conflict, if US or NATO forces come closer to Crimea, even if for any intelligence gathering or surveillance activities. While the US said the drone was flying over international waters, Russia may not regard that position to be the same. In the past incidents also, Russia had intercepted NATO jets when they flew closer to Russian territory. So the same can be understood here. Also the use of advanced air defence systems like S-400/S-500 to shoot down drones can't be ruled out from hereafter. There is still confusion over what's international waters as per Russia's or US versions.

Secondly, through this incident, the Russian military seems to have also sent a message to the Ukrainian leadership over possible ramifications if it ever tried to come closer to Crimea or try to use force to liberate Crimea from Russian control. After the start of the Russia-Ukraine conflict,

we have seen more voices from Ukrainian President Zelensky about taking Crimea by force in future. Hence the above encounter could be a form of deterrence for Ukraine and NATO who have hesitated to provide Ukraine with fighter jets.

The third signal can be significant to western countries and analysts. Right after the Russia-Ukraine conflict, it was observed by many western analysts that Russia was not using so much air power as previously anticipated. Although the missiles and drone strikes over Ukrainian cities were significant and caused much destruction, the action of the Russian air force directly was not much, considering Russia had already indicated that it's 'Special Military Operations' will be concentrated in the eastern territory of Donbass. This reduced the need for any penetration missions for the air force. This reduced air force activity may have been understood as a weakness by the western analysts. Therefore this collision over Black sea may be a message from the Russian air force to western analysts, that they are well prepared.

Takeaways for China:

It's discussed globally that Russia's close ally China will be learning from the various strategic incidents from the current Russia-Ukraine conflict for its planned invasion of Taiwan or conflict with India. Hence this incident of MQ-9 crash over the Black sea will help China to prepare itself for future intercepts of US drones near the South China Sea (SCS). China is already known to perform dangerous acts over the SCS. On 26 May, 2022 People's Liberation Army Air Force's (PLAAF) fighter made a dangerous intercept with an Australian P-8 maritime patrol aircraft over the SCS.^[iv] The P-8 aircraft was flying in international airspace at the time, well outside territorial waters, similar to drone of the USAF. If in future the USAF drones fly closer to Chinese territory or islands in the SCS, any Chinese jet may perform similar operations and intercepts to damage the drones.

Similarly, the Indian navy has also leased MQ-9 drones from the US for intelligence and surveillance activities in the Indian Ocean Region (IOR). Also, India is planning to acquire additional 30 MQ-9 Predator drones for its army, navy and airforce. This Black sea incident will be closely analyzed by China to perform similar intercept operations with India over the Himalayas along the LAC or in the IOR, closer to the Coco Islands to prevent India's surveillance of its activities.

Lessons for drone manufacturers & operators:

This incident over the Black sea, will force the manufacturers of MQ-9 Reaper drones to go back to the drawing board and address this new found vulnerability of the drone. The video released by U.S. European Command (USEUCOM) puts forward many questions in front of us.^[v] The drone has Ku-Band Beyond Line-of-Sight (BLOS)/SATCOM data link control.^[vi] With this feature, it should have been alerted about the presence of the SU-27's in its vicinity. Secondly, this drone, which has conducted many over the horizon missions over Iraq and Afghanistan shouldn't have been conducting surveillance activities near Russia's territory without the presence of friendly NATO jets. This made this drone vulnerable and exposed to Russian jets since it doesn't even have stealth features currently.

In the video released by EUCOM, the drone is seen to have a broken propeller towards the end of the video. But was that due to the collision with the jet? If yes the drone should have been violently spun out of control as the jet was at considerable speed, but the camera feed doesn't show that. In this observation, the role of the weight of the fuel dumped on the propeller can't

be ruled out apart from collision. If that's the case somehow, the material strength of propellers needs to be evaluated again.

Conclusion:

The above MQ-9 & SU-27 encounter over Black sea may not have caused much friction between US and Russia at present but it can have strategic military & export potential consequences later for the US.

References:

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