Testimony of General (Ret) John P. Jumper
For the Record
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The Predator UAV program in the United States Air Force began in earnest in 1996-97. General Ron Fogleman, then Chief of Staff of the Air Force, was attracted to both the Predator small Unmanned Air Vehicle (UAV) and the larger, higher flying Global Hawk. General Fogleman supported the entry of both those systems into the Air Force, despite opposition from many in the service. He realized the potential of the Predator to overcome a critical issue with weapons delivery; namely, the ability to reliably locate and identify targets for pilots of high-speed aircraft. With the capability to remain airborne for up to 24 hours, the Predator allowed the Air Force to study and stare at targets over an extended period of time.

Introduction into the Air Force was not easy. Predator manufacturing quality control issues; how the Predator was controlled using a conventional airplane cockpit configuration; aircrew and sensor operator training, and integration into tactics and doctrine of weapons delivery were all issues that had to be overcome to competently transition the new Predator capability into the Air Force.

The value of persistent surveillance quickly became evident as the Air Force gained more experience with the Predator. During the Kosovo war (Operation Allied Force) in March, 1999, there was significant frustration that the Predator was able to see many enemy targets as Serbian forces invaded Kosovo and killed many civilians, but we had yet to perfect the capability to communicate real-time, precise target data, to aircraft carrying weapons. This led to rapid prototyping project to add a laser designator to the Predator. The laser signal identifying targets on the ground could be seen by equipment on aircraft carrying weapons.

Following the Kosovo war, it became evident that for critical, time sensitive, targets the Predator should be armed. In 2000 the decision was made to add the Hellfire Missile to the Predator. In 2001 development of the larger Reaper UAV began, with longer loiter time and larger payload.

From the beginning the huge advantage of Predator and Reaper has been to stare at targets over an extended period of time. Prior to introduction of these systems, pilots had to rely on satellite or camera photography, often days or at best hours old. As enemy targets became more mobile and their tactics less protective of non-combatants, the Predator and Reaper have enabled the detailed study of potential target locations for extended periods of time, learn patterns of movement, signature behavior, and the presence of non-combatant civilians.

Streaming video from UAVs can be transmitted to large screens in command centers where commanders can study potential targets on large screens and integrate the video data with other forms of intelligence to confirm the target validity. In my experience published rules of engagement demand every precaution has been taken to avoid

civilian casualties and collateral damage. Certainly, there have been mistakes in target identification and there have been violations of the rules of engagement. These issues have been addressed by investigations, adjustments to tactics and punishment.

The addition of weapons to UAVs has allowed some targets to be engaged soon after they are identified and compliance with rules of engagement satisfied. Many times, legitimate military targets are not engaged when civilians are identified in the area or sensitive archaeological structures are endangered. In Operation Allied Force in Kosovo the Serbs parked combat aircraft near civilian airliners at the airport and used civilians to shield combat forces.

In my view, the addition of armed UAVs has saved many more lives than have been lost to friendly fire. Rules of Engagement are written to protect non-combatants and are respected by commanders and UAV operators. Commanders must always be responsible and accountable for decisions to employ weapons from any platform. They must balance the time pressure of engaging important targets during limited windows of exposure with the necessity to thoroughly validate targets in compliance with the Rules of Engagement.