

NOT FOR RELEASE UNTIL RELEASED BY THE SUBCOMMITTEE ON NATIONAL
SECURITY AND FOREIGN AFFAIRS
HOUSE COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

STATEMENT OF

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COMMANDER

JOINT FUNCTIONAL COMPONENT COMMAND FOR SPACE

BEFORE THE SUBCOMMITTEE ON NATIONAL SECURITY AND FOREIGN AFFAIRS

HOUSE COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

ON “*GPS: CAN WE AVOID A GAP IN SERVICE?*”

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Mister Chairman, Ranking Member Flake, and distinguished Members of the Security and Foreign Affairs Subcommittee, I am honored to be here today for my first opportunity to appear before you as United States Strategic Command's (USSTRATCOM) Commander of the Joint Functional Component Command for Space (CDR JFCC SPACE).

It's a distinct privilege to address you on the role we have in operating the Global Positioning System (GPS) constellation, and to represent the men and women of JFCC SPACE who employ space capabilities around the globe every day. These dedicated and innovative Soldiers, Sailors, Airmen, and Marines work hard to maximize the effectiveness of our space assets as they execute the command and control of our worldwide space forces.

Today I will focus my discussion on the importance of GPS to the warfighter, the health of our current GPS constellation, and USSTRATCOM's strategies to ensure the most robust space-based positioning, navigation, and timing (PNT) capabilities are provided by the GPS constellation.

IMPORTANCE OF GPS

GPS provides PNT data of such accurate and reliable nature to users worldwide that it has become essential to U.S. national security and economic well being. USSTRATCOM provides PNT effects to Department of Defense (DoD) global users that are critical to military operations. GPS is the centerpiece of global PNT services and the GPS constellation enables an ever-increasing arsenal of military and civil applications.

GPS provides critical services every second to our deployed forces around the globe from the infantrymen walking the streets of Fallujah, to the ships combating piracy off the coast of Somalia, to the aircraft patrolling our country's borders. The criticality of GPS to the warfighter

is readily apparent in on-going operations in Afghanistan where GPS services provide foundational data, enabling us to track the location of U.S. and coalition forces.

For the military users, there are multiple examples of GPS successes. For example, precision accuracy of the GPS-guided Excalibur artillery rounds have enabled the U.S. Army to remove top al-Qaida operatives while firing within close proximity of infantrymen, reducing collateral damage and risk to Soldiers on the ground. In July 2007, with only two rounds fired, Excalibur took down a top al-Qaida target responsible for improvised explosive devices (IEDs), vehicle-borne IEDs, and indirect fire attacks. Excalibur's accuracy has also enabled the U.S. Army to engage targets in missions in the Diyala province of Iraq when aircraft were unable to provide support due to weather. On 27 March 2009, following an enemy ambush against a coalition unit, a B-1B Lancer used a GPS-guided 500 lb bomb to destroy a series of enemy fighting positions and a fortified heavy machine gun position near Tarin Kowt, Afghanistan. On 28 March 2009 near Asmar, Afghanistan, a formation of F-15E Strike Eagles attacked enemy forces with GPS guided Joint Direct Attack Munitions (JDAMs), hitting a sniper hideout and a group of enemy gunmen firing at coalition troops. Right now, the USS Eisenhower (Ike) Carrier Strike Group is on station supporting coalition forces executing OPERATION Enduring Freedom. On 26 April 2009, four F/A-18 Super Hornets flown from the deck of the Ike delivered four 500 lb GPS-guided JDAMs onto enemy fortified compounds and machine gun fighting positions, ending a fire fight with coalition forces. Clearly, the GPS constellation enables our forces worldwide to maneuver into a militarily advantageous position and then, through various GPS-aided munitions, exploit that tactical advantage to create effects ranging from tactical to strategic. GPS is critical to successful military operations across a multitude of engagements, and strong communication links, operational relationships, and reach back with the

GPS Operations Center (GPSOC) and the Joint Space Operations Center (JSpOC) ensure USSTRATCOM is able to provide users the effects they need.

The User Operations Section within the GPSOC is the main interface for coordination of GPS effects with military users; however, the JSpOC also serves a vital role in military support. Whether it is a need for enhanced data accuracy, or the need to tailor additional operational support to a specific mission, the GPSOC and the JSpOC work directly with users to ensure warfighter needs are met. This means both the GPSOC and JSpOC are in constant communication with theater users to ensure optimum GPS availability and accuracy.

CONSTELLATION HEALTH AND GAP MANAGEMENT

As with all our military satellite constellations, the GPS constellation includes satellites which have exceeded their design life, operate with partial capability, or are a single key component away from failure. However, we have taken operational steps to mitigate the impacts of potential satellite losses to ensure continued support to warfighters and the global community of users.

Although required to maintain 24 GPS satellites on orbit at 95 percent probability, we have exceeded requirements by currently maintaining 30 operational satellites and have achieved sub-three meter accuracy. We conduct “residual operations” as an on-going solution to mitigate any potential gap in GPS by retaining older, partially mission capable satellites in a back-up mode that can potentially be returned to operations if a satellite in the constellation fails. Currently three vehicles are held in residual status, and through in depth analysis, residual satellites are returned to the constellation every six months to ensure PNT operational capability.

Additionally, we use “power management” as a way to extend the PNT mission on GPS satellites. While the planned degradation or suspension of secondary payloads are not regularly used as an operational tactic, technique, or procedure, we do regularly assess the health of individual satellites. As part of the assessment we balance the needs of the primary GPS mission, Space-based PNT, against the needs of the secondary missions on board. After coordination with the secondary payload mission team, those systems may be power managed or “shut down” to extend the PNT mission on the satellite.

While we continue to exceed current expectations and system requirements, we must continue to focus on future requirements for GPS capabilities for our military and civilian/commercial users. Ever-changing and increasing user requirements demand that our next generation of GPS incorporate a more robust anti-jam signal, more power directed capabilities, and faster signal acquisition to ensure users have the capabilities necessary to produce desired effects. Matching future user requirements with technological advances will allow USSTRATCOM to provide the most advanced and reliable space effects in response to the growing demands of the nation’s warfighters and commercial users.

CONCLUSION

Space has a vital role, which is epitomized by the GPS constellation, across all instruments of national power – Diplomacy, Information, Military, and Economic interactions. Specifically, the United States’ dependence on GPS across our military, civil, and commercial sectors requires PNT capabilities to ensure our ability to safely and effectively operate in diverse environments on the ground, at sea, in the air, and in space. Working in collaboration with other departments and agencies in the U.S. Government, the DoD must continue to build the

relationships, processes, and capabilities within the global space community that allow us to operate effectively together to meet our national security objectives. You can be proud of your Soldiers, Sailors, Airmen, and Marines that expertly tackle the challenges we face every day.