

Hearing Before the U.S. Senate Committee on Commerce, Science, and Transportation

“There’s a Bad Moon on the Rise:

Why Congress and NASA Must Thwart China in the Space Race”

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Good morning, Chairman Cruz, Ranking Member Cantwell, and members of the Committee. Thank you for the opportunity to testify today on this important topic and pursuit for our nation. I am also grateful to share this table with some truly amazing people, and I’m honored to be here with them today as part of this session.

It was the honor and time of my life to serve our great nation and lead our phenomenal warfighters for 33 years in uniform in our United States Air Force and United States Space Force. Throughout my military service, I also had the privilege to work closely with NASA, NOAA, and other government civil organizations across many endeavors. But I’m also grateful to have had the opportunity in the two years since my departure from uniformed service to work with and in the *commercial* side of our nation’s space business. It has given me a fresh and broader perspective on how to both envision and realize our nation’s future in space in totality, and how to bring to bear our combined national strengths to best thwart China in the years to come in this crucial arena.

My bottom line up front for the committee is that I am an advocate for, and champion of, a unified grand space strategy for our nation for the earth-moon system and beyond. Yet such a grand strategy -- which would unify and synergize our national efforts across civil, commercial, and national security activities in pursuit of common goals, opportunities, and capabilities -- does not currently exist. I believe our mission to return Americans to the moon can be a powerful driver for, as well as beneficiary of, such a strategy.

During my military career, I watched and studied – as any good soldier would of a potential adversary – as China slowly but surely developed and deployed its own civilian and military space capabilities and set its own agenda for space achievements. It is clear to me that the Chinese Communist Party is already employing its *own* integrated grand strategy for the earth-moon system, with only superficial distinction between civil, commercial, and national security activities, and all focused on a common purpose. I believe if we do not unify and synchronize *our* efforts, we will find ourselves, rather than the space leaders we are today, instead in a position of increasing disadvantage in space as we progress further into this century.

Human progression in any domain both has and will involve a robust mixture of (1) exploration, (2) economic opportunities and growth, and (3) security activities to set conditions for success. Space is no different.

A notional example goal for a grand space strategy would be to set the conditions, standards, and proper incentives for the establishment of an orbital and lunar logistics infrastructure – one that would enable increased capabilities and performance for space activities of all kinds throughout the earth-moon system. Such an infrastructure would include on orbit manufacturing, assembly, refueling, replenishment, and other forms of servicing. We already know we will need such an infrastructure to sustain human presence on the moon, solely from an exploration approach. But such an infrastructure could and will benefit Dynamic Space Operations for national security platforms as well as commercial endeavors. Yet, our national approach to space logistics to date has appeared disjointed and inconsistent to those who might seek to invest in these capabilities. A clear goal with effective ways and means to achieve it would get us to this vital and inevitable infrastructure.

The Chinese are already matching and perhaps even outpacing us in this particular pursuit. Here is a recent example: just in the last few weeks (as observed by open sources and reported in media), we have seen China perform a docking and apparent refueling operation between its SJ-21 and SJ-25 platforms in geosynchronous orbit. Following that fuel transfer activity, the docked spacecraft together performed the largest single maneuver in geosynchronous orbit ever yet conducted, likely in excess of 330 meters/second.

Other examples of areas where I believe we could move faster and more effectively under a unified strategy include *cislunar space domain awareness*, and a *cislunar communications architecture* – both, again, necessary for sustained human presence on the moon.

I am also supportive of swiftly developing *nuclear fission power solutions in space* – which are compelling to sustained operations on the lunar surface, but also could better enable national security activities, such as in the form of nuclear propulsion, and could unlock new commercial opportunities and benefits as well.

I will point out that China is developing or has already fielded capabilities in each of these example areas: cislunar domain awareness, cislunar communications, and space nuclear power.

The challenges are great, the matter is urgent – but I am optimistic we can indeed, via a unified grand strategy for space, thwart China's ambitions and continue the United States' leadership in this ultimate high ground.

Thank you again for this opportunity to testify today. I look forward to your questions.