

PLEASE INCLUDE THE FOLLOWING LANGUAGE IN THIS YEAR'S NATIONAL DEFENSE AUTHORIZATION ACT

The committee recognizes the excellent work of AFRL SSPIDR to incrementally advance the underlying technology for Space-to-Space and Space-to-Earth Power Beaming. We appreciate USSF and AFRL's role in advancing this technology, and we believe that additional resources towards the development of space-based solar power will significantly enhance national security and energy resiliency. Toward that end:

- 1) USSF Space Futures Command shall deliver military utility analysis of the advanced concept of operations for wireless energy transfer to enable the adversary to be successfully engaged. This includes threat analysis, operational end states, architecture, science and technology for the proposed gap analysis for the architecture, a gap analysis of what science and engineering needs to be developed to support the architecture.
- 2) USSF Space Systems Command shall begin developing architectures for RF wireless energy transfer in space to ground, space to air, space to surface, and space to space applications... including the potential contribution of commercial systems.
- 3) AFRL and USSF shall take ARACHNE to flight demo, as soon as possible, including exploring potential launch opportunities that allow for launch sooner than the current plan assumes. Further, invest in the critical technology elements necessary to deliver a follow-on operational prototype system with multiple panels.
- 4) AFRL and USSF shall fund contract opportunities for industry, consortia, and industry groups to research and development prototypes of space-to-ground systems.
- 5) Commercial Space Office shall explore how it would purchase wireless energy transfer from space as a service. This effort shall focus on quality of service metrics that will provide a utility regulator a metric for governing the price of energy transfer from a utility provider to a client device.
- 6) SSC SML should explore the utility of wireless energy transfer for Space Mobility and Logistics.
- 7) Space Development Agency and Space Rapid Capabilities Office shall rapidly field a RF wireless energy transfer to enable their mission architecture.
- 8) We encourage NSIC to examine competitor efforts and their potential impact on the USSF operating environment at both the strategic and operational level.
- 9) SWAC Shall perform a military utility analysis of all-weather wireless energy transfer.
- 10) DARPA shall expand POWER's scope to include space-to-space wireless energy transfer and consider a project to advance US Space to Ground Space-Based RF wireless energy transfer capability.
- 11) DOD Operational Energy Office should continue to fund fundamental contributing technologies of advanced state-of-the-art high-efficiency wireless energy transmission. Including especially: ability to scale to commercially meaningful production and transmission.

- 12) USSPACECOM to lead a series of interagency studies to understand how in-space power production and in-space wireless Energy transfer to space and to the ground may affect the operating environment and US strategic equities.
- 13) DARPA shall host a NATO Future Foresight Working Group with interagency partners, industry, and appropriate NGOs, then report to congress on the potential impact of a future in which other countries have developed commercially-viable Space Solar Power for use on Earth and in space, but the United States has not, and how that might negatively impact the United States' strategic, economic and industrial position in the world.