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Statement of  
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Before the

Subcommittee on Strategic and Theater Nuclear Forces

Committee on Armed Services

United States Senate

on

Space-Based Lasers

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Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to provide an unclassified overview of our classified report to the Congress on "DOD's Space-Based Laser Program--Potential, Progress, and Problems" (C-MASAD-82-10, Feb. 26). Copies of the unclassified digest are available here this afternoon.

Space lasers are one of several laser concepts that may someday serve as useful military weapons. However, none of these other laser concepts as presently conceived offer the potential for missile defense that space lasers do. The attainment of the space-laser potential does not appear likely until well into the future.

Due to the early nature of the technology, a diversity of opinion exists in the scientific, industrial, and defense communities regarding whether current laser and related technologies can support a constellation of space-laser weapons for air and missile defense that would be effective and affordable. Our judgment is that it is premature to believe that the effectiveness and affordability issues can be resolved before important technical uncertainties are favorably resolved. Resolving these uncertainties is necessary before even a limited first-generation weapon system is possible.

We believe resolving these technical uncertainties in an efficient manner is important because of the many significant potential advantages of space-laser weapons. Our review of the existing space laser program and management structure indicates that some

measures need to be taken to ensure that the current program is structured to resolve uncertainties in an efficient manner.

Specifically, our report highlights that:

- The present program is a funding-limited approach to developing the technology for space lasers. This approach risks keeping the potentially revolutionary technology in component development for the foreseeable future.
- Future prospects to augment the present program above that recommended by the Defense Science Board appear bleak. As a result, all space laser feasibility issues will not be fully addressed before a demonstration decision.
- Funding limitations have caused performance reductions and schedule slippages in DARPA Space Triad programs. These delays will have implications later since future efforts require data from these programs.
- Recent Defense studies agree that an on-orbit feasibility demonstration is a necessary step toward space-laser weapon development. Such a demonstration would provide knowledge relating to weapon system integration. However, the studies do not agree on the timing for such a demonstration. As a result, the pace of the space-laser program is an issue that needs to be addressed at this time.

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I would like to reemphasize that with such long-range military potential, it is important that the space laser program be a well structured, funded, and managed effort from the outset. We question whether such a program currently exists.

We recommend that the Secretary of Defense

--establish a DOD space-laser program plan containing clear and specific milestones and objectives which recognize the relative priority of space-lasers within Defense,

--commit the necessary funds to meet these objectives and to maintain stability of the program selected, and

--establish a management structure to accomplish program objectives efficiently.

This concludes my opening remarks. We will be glad to respond to any questions you have.