

Boeing Receives Contract to Design Prototype Communication Phased Array Antennas for Navy Ships

The Boeing Company has received an \$8.1 million contract to design prototype satellite communications phased array antennas for the next generation of U.S. Navy surface ships.

Under the three-year contract, Boeing will deliver to Space and Naval Warfare Systems Center, San Diego, an antenna with a phased array architecture that exhibits low radar cross section and infrared signature. The program is to be managed by Boeing Phantom Works in Seattle. Phantom Works is the advanced research and development unit of The Boeing Company.

Many current shipboard antennas, particularly those required for satellite communications, use heavy, expensive pedestals for precise steering. The pedestals' heavy weight aloft can compromise the ship's stability and the large radar reflecting surfaces dominate the ship's radar cross section.

The Boeing design will be lighter in weight and have lower-life cycle costs than current shipboard antennas.

The designs will meet existing Milstar and Global Broadcast Service (GBS) satellite communication signal, gain and sensitivity requirements. The performance of the antennas will be demonstrated at sea in 2001 after installation on the research vessel RV Lauren.

The Phantom Works phased array communication antenna development program will have three stages: design, fabrication and testing of a 44-GHz active transmit array, a 20-GHz active receive array, and transmit and receive Ku-band arrays.

The program is based upon technology development activities funded by the Air Force Research Laboratory, Hanscom Air Force Base, Mass.; the Navy Space and Naval Warfare Systems Center, San Diego; NASA Lewis and Goddard Space Flight Centers, Cleveland, Ohio and Greenbelt, Md.; and by Boeing internal research and development programs.

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