

December 5, 2000 — **TRW-Built AstroMesh Reflector Deployed Aboard Thuraya Spacecraft**

REDONDO BEACH, Calif. – Dec. 5, 2000 /PRNewswire/ – The first TRW Inc. (NYSE: TRW) deployable AstroMesh(TM) reflector has been successfully deployed aboard the Thuraya Satellite Telecommunications Co. spacecraft, built by Boeing Satellite Systems.

The AstroMesh reflector was unfurled hours after Thuraya reached its geosynchronous orbital position and, following on-orbit testing of its surfaces, ground measurements indicated that the reflector is performing nominally. Thuraya was launched by a Sea Launch Zenit rocket on Oct. 20. Thuraya will provide a broad range of satellite-based mobile telecommunications in 2001 to millions of users across the Middle East, North and Central Africa, Europe, Central Asia and the Indian subcontinent.

"As the first in our line of AstroMesh reflectors to have been launched, we are very pleased that the Thuraya reflector is demonstrating excellent on-orbit performance," said James Conlan, president, TRW Astro Aerospace.

"This reflector, with its combined transmit/receive antenna, provides users with the largest and lightest weight solution for geomobile applications. We expect that AstroMesh reflectors will be the enabling technology for many advanced satellite communications programs."

The Thuraya AstroMesh reflector measures 12.25 meters (40 feet) in diameter and weighs 55 kilograms (121 pounds). Earlier this year, TRW delivered to Boeing the last in a series of four, 12.25-meter AstroMesh reflectors, intended for geosynchronous mobile communications systems. Development of the AstroMesh reflector began in 1990 and represents an extension of TRW's experience in designing and building reflectors. AstroMesh reflectors have several unique features that are beneficial for a wide range of mission requirements:

- **Stowability** — The graphite composite tube truss structure unfolds from a cylindrical stowed shape. The reflector stows into a package only 10 percent of its full diameter.
- **Precise Fabrication/Scalability** — The design provides for fabrication methods that result in reflectors capable of larger apertures and high operating frequencies. The reflectors have been built with diameters of 6 and 12 meters, and designs of more than 20 meters in diameter and frequencies of more than 10 GHz are currently being analyzed.

TRW Astro Aerospace designs and manufactures space-deployable structures, including deployable truss masts, telescopic booms, storable tubular extendible members, solar arrays and deep truss structures. Astro Aerospace is a subsidiary of TRW's Space & Electronics Group, based in Redondo Beach. TRW Inc. provides advanced technology products and services for the global automotive, aerospace, telecommunications and information systems markets. TRW Inc.'s 1999 sales totaled approximately \$17 billion.

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